1994

Effects Of Production Location And Internationalization Mode On Product Prices: A Real Market Test

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EFFECTS OF PRODUCTION LOCATION AND INTERNATIONALIZATION MODE ON PRODUCT PRICES: A REAL MARKET TEST

By

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Submitted in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy

Faculty of Graduate Studies
The University of Western Ontario
London, Ontario
August, 1994

ISBN 0-315-93239-2

ABSTRACT

Two of the most important decisions that a multinational enterprise (MNE) or internationalizing firm face are: (1) Where should production be located to serve a specific market? and (2) How should this market be served - through exports, wholly-owned subsidiary production, joint venture, or licensing? These two questions have been studied at length in the international business literature. In these studies, however, the emphasis has been on the comparative costs of alternative country sites and market servicing modes. The product pricing side of these questions has been relatively neglected. This dissertation studies the effects of different production countries-of-origin and market servicing modes on prices of 445 products being sold in an informal economy smuggler's market in the Philippines. Firm-specific effects were controlled for by comparing products made by the same MNE. In addition, interviews were conducted with managers of eight MNEs and a non-MNE in the Philippines to discuss qualitative managerial issues on location and mode.

The international marketing literature has shown that buyers exhibit country-of-origin preferences. Most of these studies used hypothetical products and hypothetical buying situations. This dissertation uses prices of real products in a real

market to test the hypothesis that buyers prefer products produced in more developed countries, over products produced in lesser developed countries.

Some MNE scholars have suggested that product quality can be affected by the choice of mode in servicing a foreign market. However, this hypothesis has not been empirically tested. This dissertation tests the hypothesis that buyers will prefer products produced by more internalized modes of production. It is assumed that preference for higher product quality will be reflected in the price premiums of preferred goods.

The price premium data collected for this dissertation is analyzed using OLS regression. The results support the hypotheses that buyers prefer products produced from more developed countries over lesser developed countries, that branding decreases these price premiums, that purchase risk increases the price premiums, and that goods produced through more internalized modes are preferred.

The interviews with the managers generally supported the findings of the price analysis. Finally, a number of managerial implications was drawn from the results.

AKNOWLEDGEMENTS

This dissertation was only made possible through the support of several special people. Professor Donald Lecraw, my thesis advisor, provided real guidance, taught me many things about the process of good research and good writing, challenged me to think more deeply, added rigour to my analysis and selflessly provided the statistical database for this dissertation. He contributed his valuable time, painstakingly going through countless drafts with a fine tooth comb.

Professor Paul Beamish has been a supporter and advisor, not only as a member of the advisory committee, but throughout my studies in the Western Ph.D. program. His belief in helping PhD students, enabled me to survive the program.

Professor John Hulland made many constructive suggestions as a member of the thesis committee. Professor Nick Fry was a constant source of learning and support in the four years of the PhD program and I am thankful for his confidence in me. Professor Rod White was a source of intellectual stimulation, financial support and case writing guidance. Professor Christoph Haehling von Lanzenauer, as director of the PhD program, provided much appreciated financial support in the early years. Professors Mike Levenhagen and Mike Geringer

showed interest, and provided help and advice along the way.

Professors David Conklin and S. Tamer Cavusgil as members of the thesis committee contributed valuable feedback and suggested ways to improve the thesis and future research.

The assistance of managers in the Philippines who agreed to be interviewed is much appreciated.

The library staff, Jerry Mulcahy, Cheryl, Dolly, Patricia, Cathy and Patrick made it possible for me to reach this stage with their willingness to "bend" library rules for a harried Ph.D. student and the friendships they provided will always be remembered.

Even more important than the four years of intellectual growth in the PHD program, were the friendships with fellow PhD students, Kent, Christine, Kerry, John, Shige, Pat, Betty, Barb, Angela, Nola and their spouses made the program more than just school or work, but real life. I hope our professional and personal contacts will grow through the years.

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Chapter One

Introduction

This thesis investigates two separate, but linked, questions in international business (IB): 1. Do buyers pay different prices for 'identical' products made by the same multinational enterprise (MNE) in different countries?[1] If so, do factors such as branding and risk of purchase influence these price differentials? 2. Do buyers pay different prices for 'identical' products made by the same MNE when varying only their mode of serving a foreign market: through exports, a wholly owned subsidiary (WOS), a joint venture (JV), or a licensing agreement? The answers to these questions have important implications for managers of MNEs regarding production location decisions among different countries and regarding the choice of mode in serving international markets.

The first question, the country-of-origin effect (COE) on perceived product value, has generated extensive research in the international marketing literature. This thesis adds value to this area of research by its use of price data from actual

[1] The word, identical, is in close quotation marks because it is hypothesized that these products will have either/both perceived or/and real quality differences due to different production locations and modes used by the MNE.

purchases in one country (the Philippines), of 'identical' products sold in closely situated markets, that were produced by the same MNE but in different countries. These countries are grouped in the research study according to stage of economic development: more developed countries (MDC), newly industrializing countries (NIC) or less developed countries (LDC).[2] A non-intrusive data gathering technique was used, overcoming some of the methodological problems of previous studies on COE.

The second question, the mode effect on price, has not been addressed empirically to date in the literature on IB and MNEs. Of more than a hundred empirical studies on location, firm ownership and internalization factors in IB cited in the most comprehensive literature review work to date (Dunning 1993), none tested the effect of different mode alternatives on product prices. This dissertation addresses this situation by testing the effect of different modes on product prices.

Each of the preceding questions is addressed separately by using a different data set. Both data sets were collected at

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[2] More developed countries (MDCs) were defined as the members of the OECD. Newly industrializing countries (NICs) were defined as the four Asian 'tiger' economies (South Korea, Taiwan, Singapore and Hong Kong) plus Mexico and Chile. Less developed countries (LDCs) were all other countries not in the above groupings.

the same research site. One analysis focuses on COE by comparing goods imported to the Philippines from three different country groups-of-manufacture (CGOM): MDCs, NICs and LDCs.[3] The other analysis introduces mode effects as an independent variable by comparing imported MNE products to the locally manufactured version of the product produced by the same MNE. Local manufacture is distinguished according to mode: none,[4] licensing, JV, or WOS.

The results of interviews with managers of multinational enterprises in the Philippines on the research questions of the dissertation are subsequently presented and analyzed. This

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[3] This study focuses on country-of-manufacture (COM) as the source of country-of-origin effects(COE) and both terms are used interchangeably in the thesis. The COM construct was operationalized through the 'made in' statement on the product label. Recent research in the literature has broken down the country-of-origin construct into country-of-brand, country-of-design, country-of-component sources, and country-of-assembly elements. Countries were grouped in this study according to three stages of development during the operationalization of COM. Therefore, the more accurate term to use is country group-of-manufacture (CGOM).

[4] When the mode is none, it means that the MNE has no local production in the host country, therefore the mode used by the MNE is solely export. Comparison of the import is made to a comparable product made by a local uninational enterprise (UNE), a non-multinational enterprise. A multinational enterprise (MNE) is defined as a business organization with a foreign direct investment. A uninational enterprise is defined as a business without any foreign direct investment. Note that a UNE can be international by exporting a significant proportion of its sales; however, it does not benefit from the potential economies of scale, scope, and learning available to an MNE (Ghoshal 1987).

over-all methodology of combining statistical analysis of a large scale data base of prices to measure buyer behavior, and qualititative interviews with managers to probe managerial perception of the issues, has not been done in previous empirical work on mode and country-of-origin effects.

Research Issues

Research questions on COE and mode are important for at least three reasons. First, one of the most fundamental firm level strategic decisions in international business (IB) is how to internationalize most effectively (Buckley 1989, Beamish, Killing, Lecraw and Morrison, 1994). Specifically, via which mode can a firm service a foreign market most profitably? Second, global strategies of integrating production locations to take advantage of comparative cost advantages of countries or economies of scale (Levitt 1983, Ohmae 1985, Kogut 1985, 1989, Ghoshal 1987) may conflict with demand side marketing factors, such as country-of-origin effects on price (Bilkey and Nes 1982, Johansson 1993). Third, COE has a special impact on less developed countries, newly industrializing countries, and newly independent republics (NIRs), when COE may act to lower the prices consumers (in both higher income and lower income countries) are willing to pay for products produced in LDCs, NICs and NIRs (Bilkey and Nes 1982, Schooler, Wildt and

Jones 1987, Baughn and Yaprak 1993, Wood and Darling 1993).[5] To the extent this buyer behavior happens, there are implications for government policy makers in multilateral organizations, LDCs, NICs, NIRs and more developed countries when COE functions as a trade barrier in MDCs and perpetuates *dependencia* in LDCs.

Due to the importance of research questions related to COE for consumers, business managers and government policy makers, since the 1960s there have been many studies in the international marketing literature of this phenomenon. A recent literature review on COE research found more than a hundred papers (Papadopoulos, Heslop and Bennett 1993). Largely, these studies were descriptive and atheoretical (Bilkey and Nes 1982, Heslop and Papadopoulos 1993). For instance, researchers asked respondents for their impressions of imported versus non-imported products, without a theoretical explanation of the underlying choice processes. The last nine years, however, have seen theoretical and methodological advances.[6] Even during this more recent

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[5] Newly independent republics (NIRs) were former Eastern bloc economies. (Products from NIRs are not investigated in this thesis.)

[6] The turning point began with a study by Erickson, Johansson and Chao (1984), which tested hypotheses based on theories from social psychology within a multivariate model (Papadopoulos 1993).

period, all the empirical tests reported in the literature have used perceptual data; mainly comparative evaluations by samples of students, or a limited number of consumers, of attributes, or over-all impressions, of hypothetical products from different countries. Research designs have involved mainly surveys and a few experiments.

Surprisingly very few studies (e.g., Johansson and Nebenzahl 1986, Stewart and Chan 1993, Nebenzahl and Jaffe 1993, Speece, So, Miller and Milner 1993) have empirically looked at how much consumers were hypothetically *willing to pay* in terms of price premiums (or discounts) for products produced in one country versus those produced in another country. For example, these latter studies asked respondents to state the price premium they would be willing to pay for a Sanyo microwave produced in Japan over a Sanyo microwave produced in South Korea (Nebenzahl and Jaffe 1986). Although these studies have advanced our knowledge concerning COE, they are based on hypothetical situations for the respondents (who very well may not even be considering such a purchase). There remains the question of whether the conclusions of these studies can be generalized to actual buyer behavior. To date, no study has looked at the prices that consumers <u>actually</u> pay for <u>real</u> products produced in different countries by the same MNE.

Research in international business on production location and mode choice from the rational, economics perspective (e.g., Dunning 1980, Gatignon and Anderson 1988, see also Cantwell 1991 and Dunning 1993 for comprehensive reviews of this stream) has usually focused on transaction costs, production costs, transportation, and tariff costs as determinants of the choice of location and mode of operations. This literature has neglected the sales revenue implications of mode choice.[7] Often, revenues have been assumed as a constant, with the key variables relating to the cost side. However, as Grosse (1985) pointed out in a theoretical paper, the important strategic decisions in international business, such as production location and internalization (mode choice), should incorporate potential revenue effects as well as potential cost effects. This dissertation analyzes the impact of different foreign market servicing modes on revenue, through price premiums (or discounts) of products, making a contribution to the broader economics-based research literature on international business. Thus the dissertation focuses on the 'demand side' of international business research. Research on costs can be considered as being on the supply side, while research on firm

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[7] The other main stream of research on international location and mode choice is the behavioral process stream, exemplified by Aharoni (1966) and the Scandinavian stages models (Johanson and Vahlne 1977, Johanson and Wiedersheim-Paul 1975, Welch and Luostarinen 1988).

revenues as they are determined by consumer purchasing behavior, such as the orientation of this thesis, can be considered as being on the demand side.

Expected Contributions of this Thesis

This dissertation utilizes a unique, large data set collected in the Philippines to examine the differentials of real market prices of products made by the same producers in different countries. This method allows comparisons of prices asked by small retailers and paid by Filipino buyers for 'identical' products produced by the same company and sold under the same brand name in the same market area but with different country group-of-manufacture (CGOM). The data set also has data on the mode of production, i.e., whether the product was produced abroad and exported to the Philippines, or produced in the Philippines under license, by a JV, or by a WOS. Hence, the data allow direct evaluation of the effects of operating mode on price.

Through 1992, the United States operated several large military bases in the Philippines. There was widespread smuggling from the 'Post Exchange' (PX) of these bases to large 'smuggler's markets' adjacent to the bases. Each market area was comprised of several hundred stalls in an area covering several acres. The data for the thesis allowed the

comparison of the prices charged for smuggled products in these stores with the prices charged in nearby markets for the same products which were either imported legally, or produced in the Philippines under license, by JVs, or by a WOS of the same companies that had produced the smuggled products. For example, the price of 'Cheese Whiz' produced by Kraft in the U.S. and sold in the smuggler's market (the informal economy) could be compared directly to the price of Cheese Whiz produced in the Philippines by Kraft's local subsidiary and sold in the regular legal market (the formal economy).

Such a situation is rarely found in regular distribution channels and in developed countries. In this market, prices were neither listed nor fixed by the sellers, and, effectively, prices realized in purchase transactions were akin to bids by buyers in a highly competitive market. The site fortuitously provided a naturally occurring quasi-experiment (Cook and Campbell 1979). Since the number (some 445) and variety of different products tested was far greater than that of any previous COE research using surveys and experiments, more general conclusions across different products can be drawn.

One of the fundamental unresolved questions in COE research is, "To what extent does country-of-origin (COO) affect buyer

behavior in real purchasing situations given the multiplicity of other cues?" A general criticism that can be made of previous marketing research in COE lies in the obtrusive use of country-of-origin as a cue in experiments and surveys. By their design, these studies have highlighted COO, e.g., when the respondents were asked for their impressions or what price differences they would be willing to pay for the same product produced in different countries. This procedure may have artificially inflated COE's role as a factor in the studies compared to its role in actual consumer purchase behavior, especially since other surveys or experimental data have suggested that in some situations, consumers may not use COO information at all, use it sparingly, or use it less than other cues or product information (Bilkey and Nes 1982, Erickson, Johansson and Chao 1984, Johansson, Douglas and Nonaka 1985, Hugstad and Durr 1986, Hester and Yuen 1987, Hong and Wyer 1989, Wall, Liefeld and Heslop 1991, Baughn and Yaprak 1993, Liefeld 1993, Samiee 1994). These problems are referred to in the social sciences as demand or design artifacts.

In contrast, this dissertation uses the prices actually paid by consumers as an unobtrusive measure (Kidder and Judd 1986). The data can be considered as unobtrusive measures since they reflected actual market prices post-hoc. Price data were

collected after-the-fact, of bids by buyers for different products in a highly competitive market in a real life selling environment. Consequently, CGOM information was not unnaturally highlighted.

In addition to methodological reasons, post-hoc market price as a dependent variable is empirically and managerially important because it can contribute more directly to the estimation of potential sales revenues of alternative choices in international production location and market servicing modes.

Managerial Relevance

For the manager, this dissertation supports and extends previous efforts in COE research that have sought to identify COE parameters and the magnitudes of COE on the potential sales revenues of international operations. In the past, major business corporations have commissioned COE studies to assess consumer price preferences in connection with managerial decisions on production location and sourcing for specific markets (e.g., Johansson and Nebenzahl 1986, Stewart and Chan 1993). Other companies have provided product items with different 'made in' labels to researchers for experiments (e.g., Heslop, Liefeld and Wall 1987, Wall, Liefeld and Heslop 1991). This thesis goes beyond these studies by using real

market prices to measure actual consumer purchasing behavior. This research project also adds considerably to the manager's framework for decisions on mode and location choices by integrating CGOM effects with branding and internalization (mode choice) factors.

In managerial terms, the calculus for location choice has to come from both the revenue and cost sides. The reason that past COE research may not have been used by some managers (Johansson 1993), might have been due to the relative ease and greater legitimacy in the results of internal corporate studies that have focused on comparative costs between country production locations. Usually, managers from firms can more readily accept cost estimates and allow lower probabilities and higher deviations to revenue estimates (Davidson 1980, Caves 1982, Root 1987). After all, cost estimates can be derived more easily and in more concrete fashion from resources and assets within the firm, than can price effects. Actionable variables relevant to costs are often within internal control of the firm. On the other hand, revenue estimates of COE effects have to rely on hypothetical situations, e.g., if a Toyota were made in Country Z, how much would customers pay relative to a Toyota made in Country X? Sales revenues are often subject to forces that are external to the firm. Nevertheless survey research by Johansson and

Nebenzahl (1986), Stewart and Chan (1993), and Nebenzahl and Jaffe (1993), which indicated hypothetical price preference differences due to countries-of-origin for big ticket items, of up to 20%, showed that COE is of sufficient magnitude to warrant consideration in addition to cost factors in the location decisions of firms.

Mode choice is a key competitive strategy decision because it impacts the costs, risks and managerial considerations on the supply side, and the quality of the product offering, the perceived consumer value, the competitive positioning, price and the market demand on the demand side, of an MNE's internationalization process and ongoing global operations. Location decisions answer the "where" question of an MNE manager's strategy decisions while mode choice answers the "how" question. Buckley, Pass and Prescott (1992), in a study of British firms with international operations in seven different manufacturing and service indutries, found that mode choice was an important factor in their competitive performance vis a vis American, Japanese, French and German firms. Hence, this thesis tests the effect of mode choice on the demand side, the market-determined prices of a cross-section of products made under different modes of production.

Organisation of the Thesis

The following sections of the thesis are organized as follows. Chapters 2 to 5 present, discuss and analyze the country group-of-manufacture effects on prices paid by consumers in the Philippines for competing products produced in different foreign countries. Chapters 6 to 8, examine mode effects, or the prices of products made in the Philippines under different modes relative to the prices paid for identical versions imported from abroad.

Chapters 2 and 3 comprise the literature review which lays out the theoretical basis for COE, and the basis for variables that may influence COE. These Chapters also present testable hypotheses based on this review. Chapter 4 explains the research methodology, including the data collection procedures, the first data set, the operationalization of variables, and the statistical tests and equations used to test the hypotheses. Chapter 5 presents the results of the statistical analysis and their interpretation. Only the first data set of the two data sets collected for this research was used for this analysis.

Chapter 6 reviews the literature in IB that has concerned itself with the choice of mode and draws testable hypotheses based on this review. Chapter 7 presents the research

methodology including tests of the same variables previously tested on the first data set, with the addition of mode variables. The second data set was used in this analysis. Chapter 8 presents the results and interpretation of the statistical tests conducted using the second data set.

Chapter 9 presents the results of interviews with multinational managers on the issues of country-of-origin effects and mode effects. Chapter 10, the concluding section, draws over-all interpretations of all the quantitative and qualitiative results, suggests managerial implications, summarizes the dissertation's contributions and suggests future research.

Chapter Two

Literature Review: COE Research

Research on COE has been substantial and has explored many facets of the phenomenon from different perspectives. (See Papadopoulos and Heslop 1993 for the most recent and most comprehensive review.) This review will limit itself to those papers which have direct relevance to this research project. It focuses on the more recent studies, since they have tended to build upon earlier work.

The distinctive feature of this dissertation relative to the other studies in the COE literature, lies in its dependent variable - real market prices. Therefore, the review of the marketing literature on COE will be organized according to the dependent variables used in previous studies. Dependent variables in previous research have been limited to evaluations of product attributes (beliefs), over-all liking for the product (attitudes), hypothetical purchase preferences, and hypothetical price preferences. These variables logically progress to the next step in the order that we are presenting them, with the final variable being some measure of actual purchase behavior. Real market prices come closer to measuring actual purchase behavior as a reflection of COE, than these previous variables used.

In this thesis, real market prices are used to assess COE as a measure for buyer behavior. Figure 2.1, below, illustrates the progression in the literature of dependent variables measuring COE, the notable empirical studies that have used them and which we shall review, and how these variables relate to and lead to the measure that we are using in this dissertation - actual market prices.

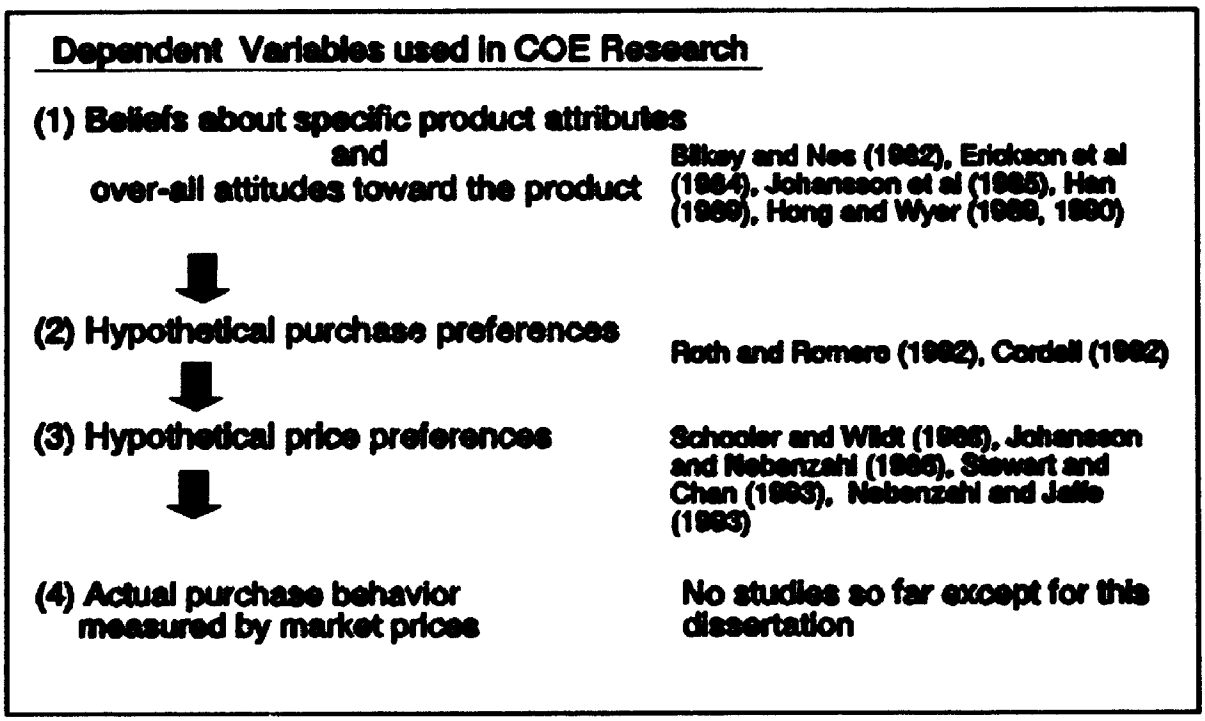


Figure 2.1

Market Prices as a Dependent Variable and the COE Literature

These studies are organized to show the underlying theoretical rationale for the COE phenomenon.

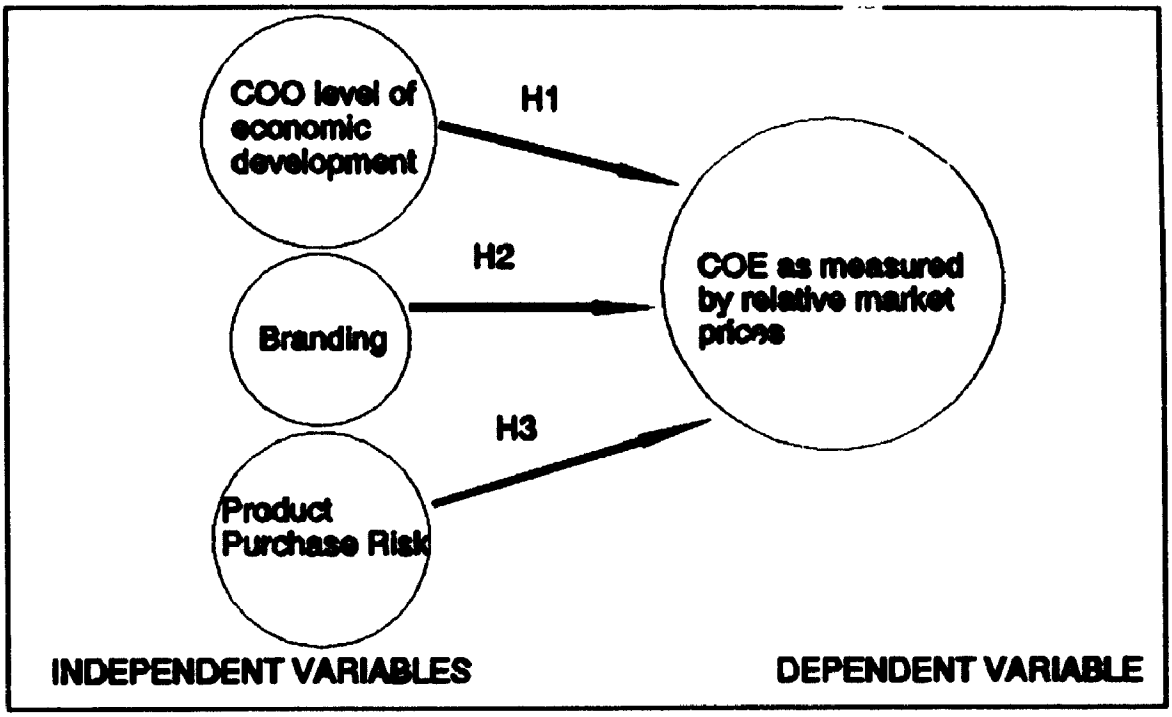


Figure 2.2

Hypotheses to be tested

This dissertation also includes several independent variables whose influences on COE have previously been tested in the international marketing literature: level of the COO's economic development, branding and purchase risk. These variables have been shown to affect the direction and magnitude of COE. Thus, studies which have used these factors as independent variables will also be reviewed. Testable hypotheses will be presented at the end of each relevant review section. See Figure 2.2 for a research model representing the COE related hypotheses.

COE Research: Dependent Variables

Beliefs About Specific Product Attributes and Over-all Attitudes Toward the Product

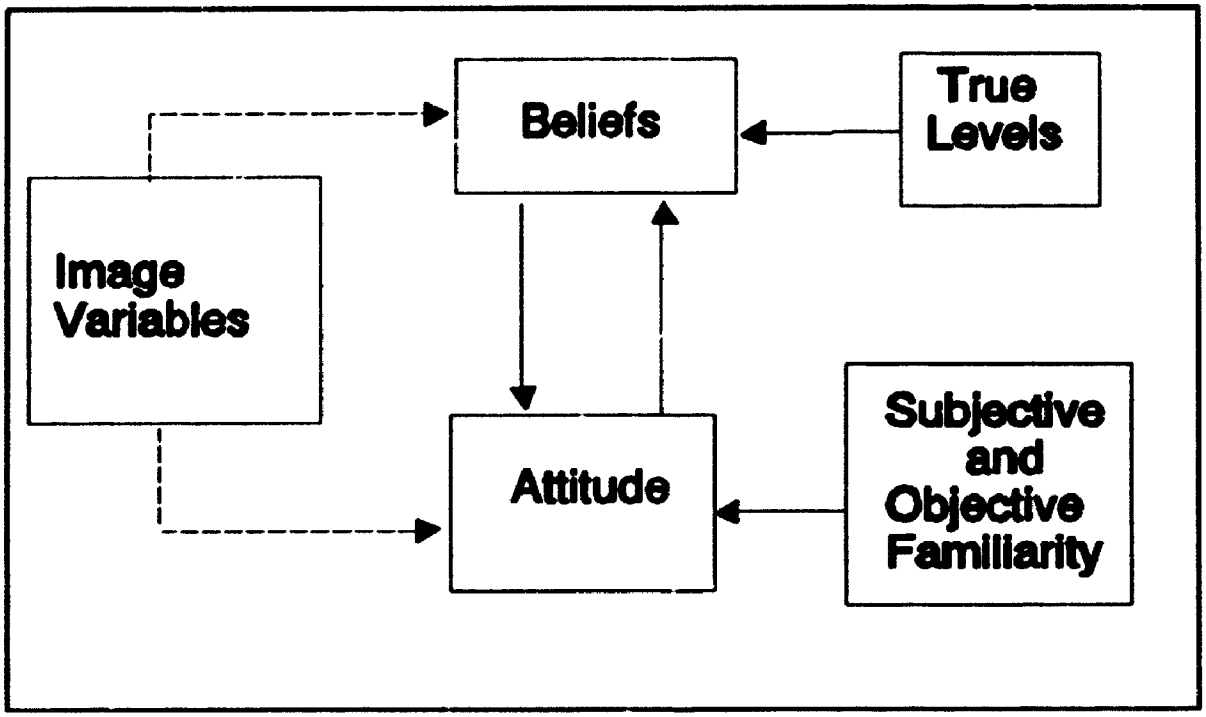
Since the 1960s, marketing researchers in different nations have explored the issue of COE by conducting surveys and experiments, by comparing the product evaluations of buyers (often student samples) for the 'home' products of the researchers' country versus 'foreign-made, imported' goods. Bilkey and Nes (1982), in the most comprehensive review of the COE literature to that point, used the concept from the general marketing literature that products can be considered as an array of extrinsic (e.g., price, brand name, warranty) and intrinsic (e.g., taste, appearance) information cues (Cox 1962, Olson and Jacoby 1972, Szybillo and Jacoby 1972). Bilkey and Nes suggested that COO information is an extrinsic cue that affects buyer's beliefs of perceived product risk and quality (two types of product attributes). They noted that experimental COE studies dating from the 60's had shown the existence of the COE for products in general; for classes of products; for specific types of products; and for specific brands. They noted that COE was evident whether the source countries were various MDCs, MDCs vs. LDCs, within LDCs, among U.S., British, Finnish, Swedish, Japanese, Guatemalan, Turkish, Indian, and Taiwanese respondents, and among both

consumer and industrial purchasing decisions.

After summarizing the results of this research stream, Bilkey and Nes cautioned that most of the previous studies could be criticized because they used single cue designs, where COO was the only cue evaluated. Most of the studies also used a verbal reference to a product instead of the tangible object itself. Bilkey and Nes concluded that the magnitude of the effect of COO relative to other cues was not clear, and probably less than that shown by the COE literature because COO is an extrinsic cue and marketing research in general (e.g., Olson and Jacoby 1972) has shown that intrinsic cues have stronger effects on perceived quality. Despite Bilkey and Nes' significant contribution, they did not suggest an empirically testable model. Also, by failing to suggest a process model, they did not thoroughly analyze the implications of their information theoretic perspective of COO.

Erickson, Johansson and Chao (1984) provided the next step in the theoretical research on COE by providing an empirically testable model based on social psychology theories. Empirically, they addressed Bilkey and Nes' criticism about single-cue COE studies by using a multi-cue approach. They conceptually framed their COE study within a larger context of how image variables influence buyers' beliefs and attitudes

towards products. Image variables were defined as "some aspect of the product that is distinct from its physical characteristics but that is nevertheless identified with the product" (p. 694). They included brand names, advertising symbols, endorsements by celebrities, and COO as examples of image variables. They proposed the model shown in Figure 2.3:



Source: Erickson, Johansson and Chao 1984

Figure 2.3

Image Model: Relationship to Beliefs and Attitudes

Erickson, Johansson and Chao could have used any image variable since their model applied to image constructs in general, but they decided to apply it specifically to COO

information. Based on the work of Fishbein and Ajzen (1975) in social psychology, Erickson et al. suggested that image variables might have inferential effects on a customer's beliefs about product attributes. They proposed three types of beliefs: descriptive, informational and inferential. Descriptive beliefs were derived from direct product experience. Informational beliefs were seen as being influenced by outside forms of communication such as word-of-mouth and advertising. Inferential beliefs were formed by making inferences (correct or incorrect) from related image information, such as COO, and using it as a proxy when other information was not complete. At the same time, Erickson et al. suggested that images might have direct influence on attitude or over-all liking of a product by provoking an emotional reaction such as affective bias (Matlin 1971, Moreland and Zajonc 1979). Thus, Erickson et al. hypothesized that country images directly affected perceptions of products through two different ways, beliefs and attitudes.

Erickson et al., further posited that product attribute beliefs would be influenced by true levels, i.e., objectively assessable qualities of the product attributes. They also suggested that attitudes were formed by subjective familiarity or previous ownership of a product. Finally, there was a reciprocal link between beliefs about specific product

attributes and over-all attitude towards the product. To test their model, Erickson et al., surveyed 70 American MBA students about their attitudes and beliefs about ten different automobile models from the U.S., Germany and Japan. To derive true level attribute measurements for the cars, they used performance and test data from *Consumers Reports* and car magazines. Using simultaneous equations to account for the two-way interaction between beliefs and attitudes, they found COO to be a significant predictor for beliefs regarding economy-related attributes but not significant for quality attribute beliefs and over-all attitude. Over-all affective attitude, price and true reliability were found to be the significant independent factors for quality, while attribute beliefs and familiarity were the significant determinants of over-all attitude. The authors did not explain the perplexing question of why images were significant for economy, but not for quality.

In an extension of the previous study, Johansson, Douglas and Nonaka (1985) introduced and tested a more comprehensive version of the Erickson et al (1984) model. Compared to the earlier model illustrated in Figure 2.3, Johansson et al. introduced a nationality variable, since previous COE research had shown differences between nationalities in biases toward specific countries. They also added other demographic

variables such as age, income and sex, and added market share as a proxy for familiarity. Significantly, they modeled COO information as an interaction variable with the demographic, ownership and familiarity variables, in addition to being an independent variable. In contrast, Erickson et al., had modelled COO solely as a main effect independent variable without interactions. Conceptually, the Johansson et al., model showed a reciprocal relationship between beliefs and attitudes similar to the Erikson et al., model. Attitude had a halo effect on beliefs, while beliefs and their relative importance influenced over-all attitudes. In addition, Johansson et al. made the following empirical modifications: using the same product set - the ten cars - and the same COOs - U.S. Japan and Germany - they surveyed matched samples of students from the U.S. and Japan. Their results were similar to Erickson et al., providing little evidence of COO stereotyping and biases in terms of over-all evaluation or liking for the cars. There appeared to be a minor COO effect on some specific attributes for specific cars.

A clear distinction between two possible models of COE, the halo model and the summary construct model, was introduced by Han (1989). In the first model, COO was used as a halo or surrogate for product quality when, (1) product information was lacking, (2) when familiarity was low, and (3) when it was

hard to distinguish between products before or after trial. Country image was seen to lead to beliefs about specific product attributes, which in turn led to an over-all attitude about the product.

In comparison, Han proposed the summary construct model that operated when the customers had some familiarity with the products. Consumers recode individual elements of information into higher order units called chunks that are easier to store and retrieve from long-term memory (Miller 1956, Simon 1974). The consumer does not examine attributes of alternative brands but simply recalls a chunk of memory for a previously formed evaluation. This process of abstraction is also reinforced because products from the same country usually have similar characteristics. For example, most Korean manufactures have competed in the low price end of their product markets. Therefore, beliefs have been summarized into country image which has directly affected over-all attitude toward the product.

Han tested both models by conducting telephone interviews with 116 respondents in a midwestern American city. Respondents were asked about their images of products from the U.S., Japan and South Korea, beliefs about the attributes of a specific car and a TV from each country, their over-all attitudes

towards the products, and the subjects' ownership experiences. Using the LISREL algorithm to test which model had a better fit, Han found that the halo model had a better fit for both types of Korean products, while the summary construct model had a better fit for the American products. Neither of the models fit the Japanese COO data well.

All-in-all, Han's results supported the theoretical implications of the two models. Consumers had little experience with the Korean products and thus used the Korean country image as a basis for beliefs and attitudes about the products supporting the halo model. In comparison, much greater ownership experience with American products by the consumers aligned with the predictions of the summary construct model. Han made a significant theoretical contribution that showed how COO may be used as a cue by buyers whether they had much familiarity with the product or not. His empirical study, however, suffered from the original criticisms made by Bilkey and Nes (1982): it was a single-cue design, focusing on COO. Also, the relative magnitude of COE was not tested to distinguish whether the halo or the summary construct versions of COO led to greater COE.

An even more explicit use of theories in psychology formed the basis for Hong and Wyer's (1989) theoretically driven study.

They tested four competing hypotheses with regards to the cognitive mechanisms that mediate COE on product evaluations. The first hypothesis, the encoding hypothesis, was based on the work in social psychology by Wyer and Srull (1981, 1986, 1989). Under this hypothesis, information is likely to be encoded into memory in terms of concepts. These concepts can be activated as a basis for assimilating new information on product attributes when the information has sufficiently common features, or if the new information is dissimilar, for producing a contrast effect. In effect, COO would lead to the interpretation of favorable attribute information as more favorable, or unfavorable information as more unfavorable, than otherwise.

The second hypothesis, the heuristic hypothesis, was based on the work by Bodenhausen (1987) on stereotypes. In this case, buyers may use COO as an heuristic basis for judgments without considering more detailed information about the object's characteristics particularly when the attribute information is large, difficult to integrate, or lacking. This concept appears to be similar to Han's (1989) halo model and earlier propositions on the use of COO in inferential information processing (Bilkey and Nes 1982, Erickson et al. 1984, Johansson et al. 1985).

The third hypothesis, primacy-recency hypothesis, was based on studies of impression formation in psychology, suggested that buyers construct an evaluative assessment based on the first pieces of information received, such as COO, as a basis for judgements. However, if the buyer does not know at the time the COO information is received that it will be used for evaluative judgments, the buyer is likely to use the most recent information presented. This implies that if COO functions simply as one of several product attributes, it will have more influence if presented before rather than after other attributes under evaluative conditions, and vice versa under non-evaluative conditions (at the time the COO information is presented). The fourth and final hypothesis, cognitive elaboration suggested that COO information made buyers think more extensively about a product's specific attributes and their desirability because COO excites their general curiosity.

To test the competing hypotheses, Hong and Wyer (1989) manipulated several conditions in a complicated experimental procedure. They used 128 students from an American university and used written information about two products - a PC and a VCR - and four countries - West Germany, Mexico, Japan and

South Korea - for stimulus materials.[1] The results showed the cognitive elaboration, hypothesis to be the most viable. Hong and Wyer speculated that subjects considered COO information as subjective hypotheses regarding a product's quality and spontaneously attempted to confirm the validity of these hypotheses as they received specific product attribute information.

Later, Hong and Wyer (1990) conducted a follow-up study, perhaps because they were surprised by the findings of their earlier research which found little evidence that COO influenced the way that other attribute information was interpreted. This time, they injected a longer time interval (24 hours) between the presentation of COO information and attribute information. They found support for the notion that an initial evaluative concept of the product was formed on the basis of COO, which was then used as a basis for judgement in its own right, but importantly, they also found that COO influenced the processing of relevant attribute information received later.

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[1] Note that the use of university students is very common in research in the field of psychology, for reasons of convenience, and the fact that if basic cognitive processes are being investigated, samples of any group of people with normal psychological functioning are useful. Use of students can also allow greater subject homogeneity, reducing random error and increasing the power of statistical tests.

Hong and Wyer's two studies have been the most sophisticated theoretically and empirically in the COE literature in terms of the information theoretic and cognitive processing perspective. However, the extent to which their carefully controlled experimental conditions have nomological and external validity have not yet been determined. Their biggest contribution was showing that impressions or concepts formed from COO information received earlier may influence how product attributes were later perceived and experienced. This view is consistent with the current cognitive orientation of the field of psychology in general that humans are active information processors but are highly biased and constrained as evaluators of information, often using heuristic 'shortcuts' (e.g., Tversky and Kahneman 1973, Nisbet and Ross 1980). [2]

The studies by Erickson et al. (1984), Johansson et al. (1985), Han (1989) and Hong and Wyer (1989, 1990) used respondent and subject perceptions of specific product attributes and over-all product evaluations as dependent variables to test hypotheses meant to support different theories on the cognitive processes of buyers underlying the COE phenomenon. Other research studies have used product

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[2] This was partly anticipated by Simon (1957) in his concept of bounded rationality.

choice preferences or willingness to buy as the dependent variable. These can be seen as natural extensions of studies that have used over-all product evaluation or liking as the dependent variable. Products that are evaluated more favorably stand a higher chance of being purchased. Refer back to Figure 2.1. Product preference questions take a step further by asking respondents to indicate a choice or the relative likelihood of purchase (in the artificial research setting) between products of different COO.

Hypothetical Product Choice Preferences

Roth and Romero (1992) surveyed 368 graduate students in the U.S., Mexico and Ireland, using 7-point Likert scales on country and product images. This study focused on the product dimensions of design, workmanship, prestige and innovativeness. The samples were also surveyed on willingness to purchase a given list of products from a given list of countries. Correlation analysis showed a significant relationship between the willingness to buy a specific product from a specific country and the match between the country-product images. In general, these relationships were consistent across the samples from the three different countries. However, the researchers did not incorporate other variables, such as price, along with product dimensions in the survey design.

Cordell (1992) conducted a telephone survey of 199 households in a major southwestern city. Among other tests in a between subjects design, respondents were asked to indicate a choice between two watches with different COOs, brands and prices. Cordell selected one of the choices as an anchor, and then manipulated the COO and brand variables for the other alternative. For example, the anchor in all the watch choice scenarios was a Seiko from Japan with a price of $69. The alternative choice was then manipulated in a 2 X 2 design between a watch made in Germany or made in Pakistan (with higher or lower given price respectively than the anchor), and between one with a well-known brand, Timex, and an unfamiliar brand, Tempomax. The same types of tests were conducted using two pairs of shoes as the choice set. The respondents consistently preferred the anchor. However, the COO (and brand) variable(s) significantly influenced the change in relative choice between the anchor and the alternative. Cordell also found that the products with unfamiliar brand names showed greater COE than those with familiar brand names.

The external validity of this research can be criticized on several grounds. The use of telephone communication to present a hypothetical choice between unseen products may cause problems, the researcher used hypothetical products that did not exist in the marketplace as the alternative choices, and

the researcher predetermined the prices given for the product alternatives which undoubtably affected the choices.

Willingness to Pay Hypothetical Price Premiums

Price preferences can be considered as an extension of product preferences. The price preference differences indicated by subjects or respondents between products of different COE within a choice set can be considered as a more specific form of product preference. Only a small number of previous research studies has actually tried to quantify the effect of COE in terms of price preference premiums (or discounts). Schooler and Wildt (1968), in one of the earliest studies in COE research, used price premiums as a dependent variable in an experimental setting. It wasn't until almost twenty years later that similar types of COE studies were again conducted in earnest. Schooler and Wildt (1968) showed identical pieces of glassware, one labelled as 'Made in Japan' and the other as 'Made in the U.S.' to 236 university students in the U.S. Midwest. They asked the subjects what price they would be willing to pay for the items. Seventy-three percent of the sample showed a marked bias against the 'Japanese' product. Schooler and Wildt then asked the biased subjects at what price discounts they would switch over. At a 12.5% differential, 23% would switch, and up to 76% would switch at a 75% differential, whereas 24% would not switch under any

price discount. Schooler and Wildt concluded that non-American producers would have to offer price concessions to penetrate the U.S. market. They did not speculate, however, on the source of the subjects' biases. Looking back, this is exactly what Japanese companies did in penetrating the U.S. market, initially offering lower priced goods to gain market share and eventually market acceptance.

Johansson and Nebenzahl's (1986) study was the next notable study that used price preference as a dependent variable in COE research. Using a between subjects design, they interviewed 320 shopping mall consumers in New Jersey, U.S.A. They used product attribute, brand, and country image scales to conduct joint space mapping analysis. In addition, the respondents were asked separately for the amount above or below $9,000 they would be willing to pay for certain brands of cars, if the cars were made in different countries. This instrument is called a dollar preference scale. It forces respondents to translate preferences into monetary terms and the researchers thought it would have more external validity than pure product attribute rating scales. Compared to a $9,000 Buick built in the United States, consumers responded that they would be willing to pay on the average 3.5% less if it were built in Japan, 14% more if it were built in Germany, 16.4% less if it were built in South Korea, 16.5% less if it

were built in Mexico, and 18.3% less if it were built in the Philippines. Similar results were obtained for a Chevy built in the United States. For a Japanese Honda, they responded that they would be willing to pay 1.1% more if built in the United States, 4.2% more if built in Germany, 15.5% less if built in South Korea, 15.4% less if built in Mexico, and 18.9% less if built in the Philippines. Results were similar for a Japanese Mazda.

In addition, Johansson and Nebenzahl regressed the price preference values against several variables derived from the joint space map distances of two product attributes (status and economy), and brand and country images. They found that the difference between the brand and the country image in the status dimension was the most important determinant. They suggested that brand image can be improved significantly by moving production to a higher-status country. This move would have allowed charging a higher price.

Johansson and Nebenzahl conducted this study for an unnamed Japanese car manufacturer looking at plans to set up plants in the United States. Since all major Japanese car manufacturers subsequently put up U.S. plants, either alone or in alliance with a U.S. manufacturer, one can imagine that the COE research was taken into consideration along with the cost and

political factors. However, the Johansson and Nebenzahl research can be critiqued somewhat for external validity since it was based on hypothetical products and situations and the respondents in the sample were not in the process of buying a car.

Mercedes-Benz has the world's highest market share in six ton and above commercial vehicles. In 1987, it commissioned a study to find the effects of a decision they had made to sell Mercedes tourist buses built in Brazil to Hong Kong industrial buyers. Stewart and Chan (1993) used a dollar preference method identical to that used by Johansson and Nebenzahl. Thirty out of a population of 80 potential tourist bus buyers in Hong Kong were interviewed. For an $800,000 Mercedes bus made in Germany, the respondents stated they would on the average demand a 6.5% discount if made in Japan, a 17.9% discount if made in Brazil, and a 19.9% discount if made in South Korea. For a Japanese Mitsubishi bus, respondents were willing to pay 5.9% more if built in Germany, 13.6% less if built in Brazil, and 18% less if built in South Korea. For a Japanese Nissan bus, respondents were willing to pay 7.9% more if made in Germany, 16.3% less if made in Brazil and 20.2% less if made in South Korea. Unlike the previous research, Stewart and Chan did not try to relate the price preference results with independent image variables.

One may question the relevance of COE in the context of industrial purchasing since one can assume that industrial buyers would be more performance-oriented and would seek more objective information. On the other hand, post-purchase performance information on some attributes such as reliability may simply be unavailable and can only be obtained through the purchase and trial of the product itself, especially if the product/country-of-manufacture combination is new to the market. Under these circumstances, COE would still play a role as a significant information cue even in the industrial context. This is especially important as purchase price and cost of product failure increases.

Studies on small-ticket consumer items are also useful to add to the above findings. Speece, So, Miller & Milner (1993) surveyed 93 student respondents in Washington State, U.S.A. for price effects of COE among others. This experimental design included the showing of a picture of a hypothetical calculator with no brand and a base price of $20 to respondents. They were then asked how much more or less they would expect to pay for the calculator in a store if the calculator's production was moved off-shore to a country different from the home country of the company. The majority responded that for a U.S. calculator, they would pay around 27% less if made in South Korea and 22% less if made in Japan.

For a Japanese calculator, the majority would expect to pay 27% less if made in South Korea and 34% more if made in the U.S. For a South Korean calculator they would expect to pay 34% more if made in Japan and 35% more if made in the U.S. On the product attribute scales, South Korean manufacture consistently rated lowest, with U.S. and Japan about even. The validity of this study can be questioned due to the use of student respondents and the intangible cue of a synthetic photograph. Also, subjects were asked what they would 'expect to pay', which means that some subjects might have based their responses on their assumptions about the costs to make calculators in a specific country, and the corresponding prices usually charged, e.g., more costly in the U.S., not on the relative desirability of the products. Nonetheless, meta-analysis by Leifeld (1993) has shown that the results of COE research using student and non-student subjects were not significantly different, especially if the product under consideration was a normal student purchase, e.g., calculators as opposed to cars. [3] Nevertheless, student samples can limit the generalizability of research findings.

Still studying price preferences as a dependent variable, but

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[3] On the other hand, this lack of difference could be interpreted as a weakness of the previous COE studies included in the meta-analysis.

using a different methodology, Nebenzahl and Jaffe (1993) asked 413 respondents in Israel for price preference schedules on Sony VCRs, Sanyo microwave ovens, and Grundig VCRs and microwave ovens built in Japan, Germany and South Korea. An example of the results is: from a base price of $2,000 for a Japanese Sony VCR, if made in South Korea, 17% of the respondents would purchase at a 10% discount, 33% at a 20% discount, 72% at a 30% discount, 81% at a 40% discount, and practically all at a 50% discount. In contrast, for a $1,000 Japanese Sanyo microwave, if made in Germany, would induce 10% of the respondents to pay a 20% premium, and 22% of the respondents a 10% premium.

From these results, Nebenzahl and Jaffe derived arc price elasticities. They showed that price elasticities were higher for Korean manufactured goods, i.e., the consumers were more sensitive to price changes. They concluded that to maximize revenues, the Grundig products if made in Japan would have to be discounted 10 to 20%. The German brands, however, would have to be discounted 30 to 40% if made in South Korea. For Japanese brands, moving production to Germany did not necessarily imply that price premiums should then be charged for these products. Again, using price elasticities, it was shown that the optimum price would be from the base price provided, to a 10% discount. This paper provided an attractive

methodology to derive possible country-of-origin revenue effects from the joint effects of price and volume.

Over-all, the survey and experimental research on price preferences indicates that, potentially, buyers might express their product evaluations and preferences as a result of COE by adjusting their price bids in an actual competitive market bidding situation or adjusting their volume of purchases in a fixed price situation. In the latter situation, rational sellers should in the long-run respond by adjusting their prices to market demand, given a competitive market. Therefore, given the right situation, prices should reflect COE. However, no studies examining the effects of COO on actual prices have been conducted to date.

Conclusion

Bilkey and Nes (1982), Erickson, Johansson and Chao (1984), Johansson, Douglas and Nonaka (1985), Han (1989) and Hong and Wyer (1989, 1990) drew upon theories in social psychology and consumer behavior to lay the groundwork for the theoretical basis of COE and empirically measured COE through beliefs about specific product attributes and over-all attitudes toward the product. Cordell (1992), and Roth and Romero (1992), showed that COE can be related to product and purchase preference among a given set of choices. Schooler and Wildt

(1968), Johansson and Nebenzahl (1986), Stewart and Chan (1993), and Nebenzahl and Jaffe (1993) showed that COE can be reflected through hypothetical price preference among a given set of choices.

The research studies reviewed above repeatedly showed evidence of COE, in terms of paper and pencil or verbal responses to surveys, or to questionnaires in experiments. These were responses to questions regarding beliefs on specific product attributes, attitudes on over-all product evaluations, product choice preferences and price preferences. Many researchers in the general marketing literature have noted that the empirical evidence on the link between belief and attribute responses in research settings to purchase behavior in real buying situations, and between preference responses in surveys and interviews to actual purchase behavior is not yet conclusive (e.g., Kotler and McDougall 1985, Peter and Olson 1987, Kindra, Laroche and Muller 1989, O'Shaugnessy 1992).

Moreover, despite the methodological criticisms made by Bilkey and Nes in 1982, subsequent empirical studies have failed to address one or more of the following weaknesses: use of single-cues, intangible products, student convenience samples, and hypothetical products. Hence, there is a need for more research that tries to measure actual purchase behavior in

real market settings. (Refer back to Figure 2.1.[4]) This type of research has been lacking in the COE literature, most probably due to practical difficulties of implementation. Finding a suitable real world research site that allows buyers choices between products of the same kind, produced by the same firm but with different COO, is clearly a problem. Fortunately, such a research site was found and accessed for this study. By using prices actually charged by merchants and paid by customers for real products in a highly competitive market, elementary microeconomic theory (Samuelson and Scott 1966) can be applied, and it can be inferred that the prices reflect buyer preferences for goods of different COO. Due to the natural controls present in the research site, COE can be isolated by comparing the prices of 'identical' products made by the same MNE in different countries. Prices are also more managerially useful as a dependent variable because the link to corporate bottom lines is more obvious and direct than previous measures of COE.

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[4] #4 in Figure 2.1.

Chapter Three

COE Literature Review: Independent Variables

The COE literature has used different independent variables to assess their effects on the dependent variables discussed above. For this dissertation, three variables that have received support in the literature were replicated: level of economic development of the COM (Country-group of manufacture, CGOM), branding, and product risk.

CGOM level of economic development

Bilkey and Nes (1982), in their review of previous COE research, found evidence of a positive relationship between product evaluations and perceived degree of economic development of the source country. Other factors which influenced COE included cultural and political affinity, colonial ties, and a preference for local products or a possibility of ethnocentrism, although it was not clear what the hierarchy or relationships between these different biases were. They suggested that the perceived risk for American MNE products made in other countries had an inverse relationship with the economic development of the other countries. They also concluded that the relationships and interactions between COM and other cues such as price, and the source and nature of COM biases, were unresolved. As an example, they noted that

LDC-made products tended to be lower priced, and price had been shown in general marketing research to be inversely related to quality perceptions. Bilkey and Nes suggested that this result implied that the negative perception of LDC products may be due to either COM, listed price, or both.

The Bilkey and Nes findings on preferences were also supported by a later study by Wang and Lamb (1983) based on a survey of 305 respondents in a Texas standard metropolitan statistical area. Using the political science, economics and geography literatures, Wang and Lamb categorized 36 nations into three levels based on degree of economic development, three levels based on degree of political freedom, and six cultural levels based on degree of affiliation with the respondent culture. The results showed a direct relation between willingness to buy products made in a particular country and that country's level of economic development, political freedom and cultural similarity.

Chao (1993) used a 2 x 3 x 2 experiment with 120 respondents in a midwestern American city to explore country-of-assembly (COA), country-of-design (COD), and price as independent variables and design and product quality as dependent variables. A branded TV set was used to derive perceptions of COD effects between U.S., Japan, and Taiwan, and COA effects

of Taiwan, Thailand and Mexico, with given price levels of $270 and $370. Taiwan, Thailand and Mexico ranked in that order in terms of favorable COA effects, although the difference between Thailand and Taiwan was not significant. Japan ranked first on positive COD effects, followed by the U.S. and Taiwan. A higher price raised quality perceptions for U.S. and Taiwan COD TVs, but the Japanese set did not require a price differential to evoke a quality image.

The results of empirical research in the international marketing literature by Johansson and Nebenzahl (1986), Roth and Romero (1992), Cordell (1992), Stewart and Chan (1993), Speece, So, Miller and Milner (1993) and Nebenzahl and Jaffee (1993) reviewed earlier showed a consistent hierarchy in preferences, with products from MDCs being preferred over those from NICs and LDCs, and products from NICs over those of LDCs. Other COE research (e.g., Han and Terpstra 1988, Wall, Liefeld and Heslop 1991, Nes and Bilkey 1993, Ahmed, Atsous and Zoutien 1993, Ulgado and Lee 1993, Tse and Gorn 1993), has also demonstrated this hierarchy of preferences.

These preferences can be considered as rational responses of buyers to the general observation that MDCs have greater capabilities relative to LDCs in producing most manufactured goods. This difference in capabilities is especially true for

higher technological or knowledge content products. Country capabilities refer to the unique conditions within countries that give rise to the capabilities of firms based in, and production facilities located in, a country. It's antecedents include the comparative advantage of nations theory of trade. However, it improves on the earlier static, equilibrium-oriented, neoclassical economics theories by assuming market imperfections and brings in temporal dynamics, industry conditions, firm level differentiation, the government's role, and national culture. The recent stream of literature on country competitiveness (e.g. Porter 1990, Dunning, Kogut and Blomstrom 1990, Kogut 1991, Collis 1991) speaks to the relative differences in country capabilities for specific industry segments or products and services. Scott and Lodge (1985) defined country competitiveness as "a country's ability to create, produce, distribute and/or service products in international trade while earning rising returns on its resources" (p.3).

The stream of research by Porter (1980, 1985, 1990, 1991) in the strategy literature provides a rationale for the link between country capabilities and why buyers prefer the products of one country compared to those of another's. He suggested that firms can create competitive products through differentiation that allows the firm to extract a price

premium for its products. Differentiation lowers the buyers costs or raises the buyer's performance. Buyer's costs include financial costs, risk of product failure, time and convenience costs. Buyer's performance relates to financial performance, as well as to the raising of the level of buyer satisfaction, meeting buyer needs, and gaining status and prestige.

The price premium reflects both the actual value delivered to the buyer and the extent to which the buyer perceives this value. According to Porter, the perceived component becomes more important when the product's impact on buyer cost or performance is hard to quantify, subjective or indirect, when many buyers are new or unsophisticated, and when repurchase is low. A firm's ability to create favorable differentiation is in large part due to the geographical location of the firm's origin and base of operations such as the MNE's country-of-origin. The favorableness of this geographical base is due to factors in the "national diamond" such as: the nature of strategy, structure and rivalry in the local industry environment, the nature of resource availability and scarcity, the characterisitics of demand in the local marketplace, and the quality of the related and supporting industries. Government policies and actions act through these factors to determine the favorableness of a firm's geographical location. Based on the preceding line of reasoning, we can infer that

the COE of a product is ultimately linked to how the country capabilities of the firm's national home base enable that firm to produce favorably differentiated products in the world market. Porter focused on the home bases of MNEs, but other authors (e.g. Dunning 1988) have pointed out that the country capabilities of the host country may also affect the manufacturing capablities of an MNE's international operations. In general, MDCs have more favorable home diamonds and greater country capabilities for manufactured products with higher technological or knowledge content. In this respect, NICs rank below MDCs, but higher than LDCs.

Buckley and Clegg (1991) used socio-anthropological cultural concepts to theoretically explain the generally lower country capabilities of LDCs in many manufacturing industries or products. They argued that what distinguishes LDCs from MDCs was the presence of high-level entrepreneurship in the latter. They defined high-level entrepreneurship as system-wide innovation of the Schumpeterian kind. They considered lower-level entrepreneurship, akin to that undertaken by petty traders in small towns, as existent in LDCs, but insufficient to turn them into NICs or MDCs. They suggested that an entrepreneurial culture requires two things: the technical aspect constituting a scientific, systems view of the world, and the moral aspect, constituting respect for effort, quality

of work, accumulation of wealth, and the trust involved in voluntary associations. While theoretically interesting, Buckley and Clegg's propositions need more empirical support, including the need for historical evidence.

Research studies have repeatedly shown the negative effect on COE of manufacturing in NICs (e.g., South Korea and Mexico), and LDCs (e.g., the Philippines, Pakistan and Indonesia), relative to manufacturing in MDCs. However, it should be remembered that COE is a dynamic concept, and directions and magnitudes of COE for specific countries may change over time. There is considerable anecdotal evidence regarding the improvement of the positive COE of Japanese made products. In the 1950s and 1960s, Japanese consumer electronics and automobiles had a reputation for shoddy quality. However, in the last two decades, they have led the world in product quality. (See Womack, Jones and Roos 1990 for the automotive industry.) Correspondingly, Japan's COE has increased positively. Darling and Wood (1990) conducted a longitudinal survey study comparing the COE of Japanese and U.S. products in a third country, Finland, from 1975 to 1985. They found that the COE for Japanese products improved substantially, and by 1985, were superior to U.S. products in all categories, despite their initial disadvantages. To summarize the example of Japan, improvements in real product quality will eventually

lead to improvements in COE, although there might be a temporal lag, as the knowledge has to reach critical mass and be diffused to the market through consumers' repeat purchases and usage of the items.

The issue of country (or in this case, country stage of development) preference, can be tested through the following hypothesis. Different specific sources of COE have been explored in the literature, such as country-of-brand (Han and Terpstra 1988, Tse and Gorn 1993 and Hulland and Chow 1993), country-of-design (Chao 1993), country-of-component sourcing (Tse and Lee 1993), and country-of-assembly (Chao 1993, Tse and Lee 1993). Due to the nature of our data, we concentrated in this study on country group-of-manufacture (CGOM).[1] Country group-of-manufacture effects will exhibit a buyer preference favouring products produced in more developed countries (MDCs) over products from newly industrializing countries (NICs) and less developed countries (LDCs). The following testable hypotheses are suggested.

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[1] The terms country-of-origin effects and country group-of-manufacture are used interchangeably in this study to link this particular research to previous COE research in international marketing. More specifically, our operationalization uses country group, according to development stage, not particular countries.

Hypothesis (1a): Products from MDCs will have price premiums over products from NICs.

Hypothesis (1b): Products from MDCs will have even greater price premiums over products from LDCs (compared to those from NICs).

Hypothesis (1c): Products from NICs will have price premiums over products from LDCs.

Such that $P_{MDC} > P_{NIC} > P_{LDC}$.

Branding

Han and Terpstra (1988) showed that COE can be mediated by brand. A quota sample of 150 interviewees from a city in the midwestern U.S. was obtained to test responses to automobiles and TVs. For each product they used a well known brand name from the U.S. (Chrysler and G.E.), Japan (Honda and JVC), Germany (Volkswagen and Grundig) and South Korea (Hyundai and Samsung). Subjects were asked to rate each brand among several product attribute dimensions, then the country-of-manufacture (COM), (U.S., Japan, Germany or Korea) was manipulated for each brand. The order of favoured country-of-manufacture was Japan, U.S., Germany and South Korea for TVs and Japan, Germany, U.S., South Korea for autos. ANOVA and MANOVA were

used to test the differences in scores for each dimension. Han and Terpstra emphasized that the results showed that "the sourcing country has greater effects on consumer evaluations of product quality than does the brand name" (p. 244). This conclusion was true for both products. The results also showed differentiation of effects between different product attributes.

Ahmed, Atsous and Zoutien (1993) studied the interaction of price, brand name and COE on hypothetical purchase decisions. In addition, they also used personality variables as a moderator. In this study, ninety French-Canadian students in Quebec completed questionnaires. Countries used as treatments for different production sites were Japan, Canada, and the Philippines, the brands were Toyota, Ford and Lada, price levels were $9,000, $8,000 and $7,000. Interactions between brand name and country-of-origin and between country-of-origin and price were significant. Brand name explained the largest proportion of the variance in hypothetical purchase decisions. Note that this result conflicts with Han and Terpstra's (1988) findings. Plotting of the results indicated that Toyota and Ford cars, if made in the Philippines, were evaluated more favorably than Lada cars made in Japan or Canada. Price concessions supported Johansson and Nebenzahl (1986) as the Japanese car was evaluated favorably at $9,000, the Canadian

car at $8,000 and the Philippine car at $7,000.

Ulgado and Lee (1993) performed an experiment using descriptions of two products, TV sets and athletic shoes, with 95 university business students in the U.S. The students were asked to rate quality on a 9-point bipolar scale of TV sets from Germany (favorable COO) and Taiwan (unfavorable COO), with the brands, Sony (favorable) and Emerson (unfavorable). The treatment variables for the shoes were U.K. (favorable COO), Mexico (unfavorable COO), Nike (favorable brand) and Converse (unfavorable brand). The types of products, countries and brands were selected by the researchers based from earlier pretests on other groups of students. The researchers found significant main effects from the COO and brands for both products, but no interaction effect.

Next, the researchers used another group of 93 students in a second phase of the study. The COO and brand treatments were identical to the first phase, but this time 9 pieces of product attribute information drawn from *Consumers Reports* were given to the subjects. Interestingly, brand remained a significant variable whereas COO was not significant. This pattern showed for both products. Ulgado and Lee speculated that the subjects already had preconceived expectations on the products from the brand name information which was supported

by the product attribute information subsequently given. This allowed the subjects to discount the COO information. Ulgado and Lee suggested that MNEs can compensate for poor COO by using favorable brand names and by emphasizing intrinsic attribute information. Like many other COE research studies, Ulgado and Lee's results can be criticized on methodology: the use of student samples and intangible product descriptions.

Tse and Gorn (1993) took COE experimental research a step further, not only by using a tangible product, a stereo system, but also by letting subjects evaluate the product after experiencing the product's performance. [2] They suggested that buyers probably first hierarchically classify countries according to technical expertise in producing stereo systems. When evaluating a possible purchase, this classification led to the reduction of within-group (within-COO) differences and the exaggeration of between-group (between-COO) differences. However, Tse and Gorn wanted to know if a negative country-of-manufacture (COM) cue would lead buyers to evaluate a product more carefully and a positive COM would reduce evaluation. Also, they wanted to know how COE

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[2] These subjects were not allowed to take the stereo home, but were permitted to use it within a laboratory setting. This is a good simulation of a stereo purchase situation, since retailers usually have listening areas within stores for consumers to test products.

would fare in the context of global brands.

The Tse and Gorn experiment used 153 marketing students at a West Coast Canadian university in a 2 X 2 design, with Japan as the high quality COM and Indonesia as the low quality COM. Sony was used as the global brand produced in both COMs, and a fictitious brand - 'GIW' - was used for the other brand. Subjects were given COO and brand information on a short product description sheet. They were then asked to evaluate attributes and the product over-all, before and after product experience. Results showed that COE was reduced but remained significant after experience. However, the brand name main effect declined even more than the COE after product experience and became nonsignificant. The researchers concluded that COM might be more salient in the context of global brands and more enduring than global brand names. They also inferred that a negative COM cue, e.g., Indonesia, became a dominant cue and reduced the need to search for and examine other cues. They concluded that consumers might still have had doubts whether a global MNE like Sony could maintain product quality in LDC manufacturing sites.

Even though the Tse and Gorn study was a multiple cue design, it may still have unduly highlighted COO information as a cue. Another criticism could be laid based on their use of

Indonesia and Japan as contrasting COO images, whereas Sony and a fictitious brand were used to contrast brand names. The perceptual difference or distance between the chosen COO images may have simply been greater than the distance between the evoked brand images or reputations. For instance, Japan, a country with a positive image, was compared with Indonesia, a country with a negative image. On the other hand, Sony, a brand with a positive image, was compared with GIW, a fictitious brand with an image that was neither positive nor negative.

In summary, there is conflicting evidence on the effects of brands relative to COE on product preferences. Han and Terpstra (1988) and Tse and Gorn (1993) (as well as Hall, Liefeld and Heslop 1991 and Nes and Bilkey 1993, reviewed below) found stronger COE than brand effects. On the other hand, Cordell (1992), Ulgado and Lee (1993), and Ahmed, Atsous and Zoutien (1993) found that brands had a greater influence than COE. Brands should compensate for a low or negative COE, since brands and COO information are both extrinsic cues that give the buyer information on probable product performance.[3] Empirically, we are comparing price differentials of products

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[3] This assumes that the brand gives a positive image or information signal to the product's quality or performance. Unbranded goods give neutral signals.

with the same brand, or if unbranded, still from the same maker, but with different CGOM. Therefore buyers should consider the two products with the same brand, but different CGOM, as more similar to each other. On the other hand, the unbranded goods will be differentiated by buyers mainly on the basis of CGOM. That is, the brand effect attenuates the CGOM effect. The following testable hypothesis is therefore suggested.

Hypothesis 2: Branded products will have lesser price premiums than unbranded products.

Product Risk

CGOO may be more significant for high-risk products than for low-risk products because CGOO serves as an information cue that reduces the perceived risk to the buyer when purchasing the product (assuming a positive CGOO). On the other hand, a high risk product may motivate the buyer to increase information search and use other extrinsic and intrinsic cues in the evaluation process thus reducing the effect of CGOO. The difference in effects could depend on whether or not other information than CGOO is available, and on the cost of obtaining the additional information.

Nes and Bilkey's (1993) research specifically dealt with LDC

products, the brand-COE interaction, and the combined relationships of brand and COO on perceived risk. Nes and Bilkey interviewed 96 residents in the state of Wisconsin, U.S. The interviews were conducted as an experiment having a 2 x 3 x 4 fixed-effects factorial design. The study used labelled products which the subjects could see and hold as tangible cues. This research design strengthened the external validity of the results in comparison to most other empirical studies, which have used intangible cues such as mere written descriptions of a hypothetical product (Bilkey and Nes 1982). The main dependent variables were perceived risk and quality of the product, with country categories (no information, low, medium, and high income country), brand categories (no brand, well known brand, unknown brand), product risk-class (four high risk products, four low risk products) as the independent variables. Nes and Bilkey found a bias against LDC products. This effect was not completely compensated by a high quality brand. Importantly, they found that the preference against LDC products did not depend on product risk class.

Heslop, Liefeld and Wall (1987, 1991), in a Canadian experimental study similar to Nes and Bilkey's, tested 40 shopping mall subjects concerning responses to several different tangible products - shirts, wallets and telephones - labelled as made in Canada, the U.S., Italy, Taiwan, Hong Kong

and South Korea. They found COE to be greater than price or brand effects in affecting quality assessments. The magnitude of COE also increased as the products' complexity, user risk, and durability factor increased, and as frequency of purchase decreased, supporting the halo effect in information processing as suggested by Han (1989). Note that their findings on product risk class conflict with those of Nes and Bilkey (1993). Heslop, Liefeld and Wall concluded that well known brand names and pricing policies could not compensate for negative COE. [4]

Due to the ambiguity in the findings of previous studies, as well as the predicted effect of product risk on CGOM effects, it is worthwhile to test this variable in our study.

Hypothesis 3: Higher risk products will have greater price premiums than lower risk products.

That is, the product risk effect augments the CGOM effect.

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[4] It should also be noted that product manufacturers cooperated in this study by providing items differently labelled as to country-of-origin, which further indicates the interest of firms in COE issues. This approach also allowed the researchers to use tangible instead of imaginary products which lends more credibility to their experimental findings.

Chapter Four

Research Method: Country-of-Origin Effects

Past research has established the theory base for country-of-origin effects. These theories were tested using experiments and hypothetical situations and advanced our knowledge, especially with regards to construct validity and internal validity. Building on this base, a research design with external validity can advance our understanding of the phenomenon by either supporting previous results, or providing alternative observations.[1] Thus, this research can generalize beyond previous COE research by investigating the phenomenon under different research setting, dependent variable and operationalization of constructs, thereby, adding external validity.

The previous empirical research on COE reviewed above can be extended several ways. One way would be to collect actual market prices for the same product produced in different

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[1] Construct validity refers to the accuracy of a research construct in representing elements of the phenomenon under investigation. Internal validity refers to the 'correctness' of relationships among constructs within a theory, e.g., x is 'really' caused by y (not by unknown z). External validity refers to the replicability of research findings across time, settings, samples and variables (Cook and Campbell 1979). The terms 'correctness' and 'really' have quotation marks because alternative philosophies of science would have alternative views on whether such terms are valid.

countries instead of surveying hypothetical purchase intent or dollar preferences under experimental or survey conditions, using samples of people who have no intention of purchasing the products being studied. This approach would have the advantage of controlling for firm specific effects, while testing for location or origin specific effects.

Unfortunately, there are few circumstances in which it is possible to obtain actual data in one market for the same product made by the same manufacturer, yet in different countries. Manufacturers and retailers rarely sell 'identical' products in one market from the same manufacturer, which are made in different countries. MNEs usually do not allow subsidiaries from one country to sell the same product in another subsidiary's sales territory unless there is a production shortfall.[2] Agreements with licensees or joint

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[2] There are exceptions. For instance, Phillips allows its Singapore subsidiary to sell their products in Indonesia for lower prices than the existing 'identical' products manufactured and sold locally by the Phillips Indonesian subsidiary. MNEs might do this to encourage competition between subsidiaries or to complement the output of a subsidiary it needs to maintain for political reasons. Research on *gray markets* has found that (1) gray market trade is sanctioned by many MNEs, (2) because of the need to 'price to the market' and remain competitive, (3) to 'dump' excess inventories especially during model changes, and (4) is also from uncontrolled actions by authorized and unauthorized channels trying to profit through arbitrage especially during foreign exchange rate fluctuations (e.g., see Bucklin 1990, Samiee 1993). Global branding is a precondition to many gray market products by making it more difficult for MNEs to price

venture partners often prevent MNEs from bringing in imports of the same product. However, there is a research opportunity for direct comparisons of prices for 'identical' products by using the gray or black markets of the informal economy as a research site.[3] Research using data from these markets can increase the external validity of previous results based on hypothetical situations because it would contain real market prices where identical goods made by the same MNE but from different countries are actually sold and bought.

There is an added benefit of using market prices as a measure for behavior. The data collection of real market prices after the fact, as an unobtrusive indicator, circumvents the potential research design problem of possibly artificially inflating the actual salience of COO information in surveys and experiments.

Another improvement on previous research would be to increase the number and diversity of products tested. Aside from greater statistical power in the testing of hypothesized relationships, if there were a larger and more diverse sample,

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discriminate between markets.

[3] Alternatively, companies can be convinced by researchers to conduct test markets using the same product but made in different countries.

it would be possible to test CGOM effects on a wider range of products and make more general statements about its effects. This has not been possible with previous surveys and experiments because of the practical difficulties in getting survey respondents and experimental subjects to evaluate too many product categories (in within-subject designs), or the time and expense involved (in between-subject designs).

The possibility of testing data on hundreds of different products was made possible in this study due to the nature of the data base, which was collected from an actual market site that offered a wide range of products produced in a variety of countries by the same manufacturers. The products varied from small ticket items such as processed food products, clothing, pharmaceutical products, health care products and other consumer goods, to bigger ticket purchases such as lawn mowers, household appliances and light industrial machinery.

Data Collection

Data on 124 products were collected from the Dau market of the Philippines.[4] In this market bazaar, hundreds of small

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[4] This data comprises the first data set, which is used for the COE analysis described in detail in Chapter 5. Data for 321 other products were also collected from the same research site in the same manner. This second data set will be explained further in Chapter 7.

retailers in simple shops sold imported products smuggled from the PX facilities of the huge Clark Base of the U.S. Air Force located nearby at that time.[5] In the same market or in adjacent markets a few blocks away, other small retailers sold legal imports, as well as locally produced versions of the same products made by the same MNEs that manufactured the smuggled goods. Some of these legally imported products were made in the same country group (according to stage of development, e.g., MDC, NIC or LDC) as the smuggled products. In other cases, the legally imported products were made in a different group of country (e.g. MDC, NIC or LDC) than the smuggled products. Ratios of the prices of smuggled products over the prices of legally imported products of the same product, made by the same MNE, but often produced in different countries were derived. Ratios were used to control for the wide range in prices of the different products. Since the products used in the study ranged from $1.00 packs of chewing gum to $500 refrigerators, relative differences in prices (ratios) for the same product made by the same MNE in different countries, were used instead of absolute prices.

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[5] Clark Air Base was closed in 1992 due to the Mt. Pinatubo volcanic explosion and was never reopened after the Philippine government refused to renew the bases agreement with the U.S. government. A smaller, though still sizeable, smugglers' market remains to this day.

In the Dau market, price was usually negotiated between the buyer and the seller/proprietor. That is, there were no Philippine peso prices affixed to the products. The market was very fragmented and competitive from both the seller and buyer side. Buyers consisted of thousands of Filipino individuals visiting the market each day. There were dozens of retailers. The retailers selling smuggled goods had small overheads and sourced from the same set of suppliers, i.e., the smugglers. One can assume that the merchants had identical marginal cost curves and were price takers for their purchases.

The data were collected by a local indigenous researcher under the direct supervision of Dr. Donald Lecraw, a faculty member at the Western Business School. Data for each smuggled or legally imported product item consisted of the ratio of the price of the smuggled product over the price of the legally imported product, the country groups of manufacture (MDC, NIC or LDC) of both the smuggled and legally imported product, whether the product was branded, and whether it was a high risk product (>$50 purchase price). Data could not be collected on actual brand names and product descriptions because of the confidentiality promised the vendors regarding their 'last price' for the smuggled goods. (Data was also gathered on the PX price of these products).

The data collector asked for the 'walk away' price or 'last price' for the items from at least six different retailers. The range of prices for the same product between retailers was found to be small. Since the market was highly competitive, the prices that retailers offered were from their experience what the consumers were willing to pay for specific items, since the consumers could easily 'walk away' to a neighboring retailer.[6] Therefore, it is reasonable to infer that over time and across products, the prices collected by the data gatherer reflected how much the consumers valued particular items (in terms of what they were willing to pay) relative to competing products available either in the smugglers' market or in similar nearby legal markets.

An argument could be made that the retailers were markup pricing, i.e., the cost to the retailer from their suppliers (the smugglers) plus a margin to cover costs and produce a profit. The response to this argument is that in the long-run, in a highly competitive market, the retailers would have to respond to the pricing demanded by the final buyers.[7] For the

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[6] The bargaining skill of an individual buyer could be a factor on the actual price of a specific transaction. However, the 'last price' offered by the merchants would typically reflect general market demand.

[7] In the long-run, given a perfectly competitive market, pricing should reflect marginal costs. For example, since cost of production in MDCs is generally higher than in LDCs, goods

purposes of this research, it does not matter if the smugglers were deriving monopoly profits from their access to the source; what matters is the final price that the consumers are willing to pay given their alternatives.

In an attempt to verify if the retailers were price skimming or not, i.e., charging higher prices to a limited clientele, Lecraw also checked prices at another smugglers' market in Zamboanga, a different island in the Philippines several hundred miles away. On a sample of forty products, the data indicated that the relative prices of imports to local goods was similar in the two markets. In addition, a consumer market survey by Philippine researchers showed that there were no significant demographic differences between shoppers in the Dau smugglers' market (the informal economy) and the shoppers in the Dau supermarket channels (the formal economy). These observations provide some support that the channel (the smugglers'market) that provided the research data was similar in terms of the types of customers served to legal channels in the same area and other extra-legal channels in other areas of the country.

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from MDCs will be priced by suppliers higher than goods from LDCs. It can be argued that in the case of the smugglers' market, the marginal cost of the retailers for smuggled products is identical regardless of the CGOM of the products.

The First Data Set

The following table lists the variables available in the first data set. Note that the data generally consists of dichotomous (1, 0) variables, denoting the presence or the absence of the condition for a specific product. The one exception to this is the data on the ratio of the price of the smuggled product (henceforth referred to as an informal economy (IE) MNE product) over the price of the legal import. The first ta set consisted of IE MNE products which were also available as legal imports. Note that for all products included in this data set, both the IE and the legal imports were produced by the same company. These legal imports were either made in the same country as the IE MNE product or in a different country-of-origin.

Table 4.1

Data Set 1

Variables

1. MDC IE import / MDC legal import[8] (e.g. 1 if the product imported (smuggled) in the informal economy was made in an MDC and if its counterpart legally imported in the formal economy market was also made in an MDC; 0 if otherwise)
2. NIC IE import / NIC legal import
3. LDC IE import / LDC legal import
4. MDC IE import / NIC legal import
5. NIC IE Import / LDC legal Import
6. MDC IE import / LDC legal import
7. NIC IE import / MDC legal import
8. LDC IE import / NIC legal import
9. LDC IE import / MDC legal import
10. If the product was branded
11. If the product was a big ticket item (> $50 purchase price)
12. The ratio of the price of the IE import over the price of the legal import.

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[8] Products were grouped according to three different country group-of-manufacture, based on the country of origin's stage of economic development. MDC products were produced mainly from the U.S., Japan and Europe. NIC products were produced mainly from South Korea, Taiwan, Hong Kong and Singapore. LDC products were produced mainly from China, India, Thailand, Indonesia and Malaysia.

The following 3 x 3 table displays the number of products found in the data set for each possible cell or combination between smuggled IE products and legal imports.

Table 4.2

Number of products per possible CGOM combination

CGOM of Legal Imports (denominator)	CGOM of IE Imports (numerator)			
		MDC	NIC	LDC
	MDC	36	6	8
	NIC	10	20	8
	LDC	11	9	16

The total n for the first data set was 124. The second data set, which we shall describe and use for Chapters 7 and 8 of the thesis, comprised the remainder of the total sample of 445 products.

Data Reliability

If the data had been collected by more than one researcher, inter-rater reliability could have been assessed. On the other

hand, it was difficult to find researchers who could do the task, given the nature of collecting data on an illegal activity, and having one data collector meant that the process could be more closely supervised by Dr. Lecraw. Lecraw accompanied the data collector initially to observe the data collection process and to train the data collector until his coding of the data was consistent with Lecraw's own coding.

Moreover, the use of a single data gatherer minimized possible systematic interviewer bias across cases. The statistical analysis was a cross-sectional analysis of relationships between variables. If there was any bias in the data collection, it would have been a consistent bias across cases. Therefore, the statistical relationships in a cross-sectional analysis should retain their validity.

Data on size of purchase, categorically coded between small-ticket (<$50) and big-ticket (>$50) was also collected. The dollar equivalent at the prevailing exchange rate at the time of the data collection of the last price in pesos was used for the coding. Size of purchase was used as a proxy for product risk under the assumption that higher priced items will carry greater immediate economic risks for the buyer. This type of risk is not identical with other types of product risk discussed in the marketing literature such as social risk or

health risk.

The data on branded/nonbranded condition was derived by the researcher's visual inspection of the product itself and the assessment of whether the product was branded or not through its packaging and name. Country-of-manufacture was determined through the product's label. This information was used to assign each product to one of the three country groups, i.e., MDC, NIC or LDC.

Hypothesis Testing

The data set contains relative prices of legal imports and smuggled informal economy (IE) imports with different country groups-of-manufacture. This data set allows the testing of hypotheses concerning the hierarchy of CGOM effects as discussed above, while controlling for product purchase risk and brand. In effect, location specific advantage factors were tested while controlling for internalization factors and firm specific advantage factors (Dunning 1988).[9] This was done by comparing the prices of IE imports of a specific country-of-manufacture versus the prices of a legal import of the same brand but from a different country group-of-manufacture.

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[9] Location specific advantage, firm specific advantage and internalization factors in Dunning's eclectic paradigm will be discussed in greater detail in Chapter 6.

The simplest hypothesis to test initially was the hierarchical preference effect of country group-of-manufacture on price premiums/discounts (Hypothesis 1). This test of H1 was conducted by comparing the price premiums for IE imports from one CGOM over legal imports from another CGOM (of the same product produced by the same company). Firm specificity was controlled through the comparison of the same product from the same company. The price premium due to CGOM effects of an IE MNE import over a legal MNE import should depend on the CGOM of the IE import having a country capability and/or image advantage/disadvantage over the CGOM of the legal import.

The test of H1 was operationalized as follows:

Let

$$Y = \frac{p^{IE}}{p^{IMP}}$$

where

p^{IE} = *market price of the IE imported product*

p^{IMP} = *market price of the legally imported MNE product*

The following 3 x 3 table summarizes the expected results for possible values of Y given the three country-of-manufacture group categories: MDC, NIC and LDC, and given H1.

Table 4.3

Expected price ratio of IE import / legal import (Y), depending on CGOM combination

CGOM of Legal Imports (denominator of ratio)	CGOM of IE Imports (numerator of ratio)			
CGOM of		MDC	NIC	LDC
Legal Imports	MDC	1	< 1	< < 1
(denominator of ratio)	NIC	> 1	1	< 1
	LDC	> > 1	> 1	1

The cells in the diagonal of the matrix were all expected to be approximately equal to one because buyers should not make a distinction between IE imports and legal imports when the CGOM group is the same. This assumes that the market for the smuggled products was the same as the market for legal imports, i.e., the people who buy smuggled goods are the same people who buy the legal imports. This assumption can be tested by checking to see if the diagonal cells do not vary significantly from the value of one. The off-diagonal cells

reflect H1. For example, the cell in row 1, column 3 of Table 4.3 had an expected result of less than 1 because the price of an IE import from an LDC is expected to be less than the price of a legal import of the same product but made in an MDC. In addition, this ratio should be less than the ratio on cell row 1, column 2, because the price ratio of a NIC CGOM over an MDC CGOM should have been closer to 1 (but still less than 1). Different tests of statistical significance were conducted between each cell to test for the univariate significance with the expected results.

Brand and Product Risk Effects

Branding and product risk levels have implications for CGOM effects. These were specified in Hypotheses 2 and 3. The magnitude of CGOM effects depends on the type of product being considered (Bilkey and Nes 1982, Kaynak and Cavusgil 1983, Papadopoulos and Heslop 1993, Nes and Bilkey 1993). Certain product categories should have higher price premiums caused by COE. For example, the brand name representing the MNE's firm specific advantage, was expected to decrease price differences because it should serve as an extrinsic cue that replaced or supplemented country-of-origin information (Hymer 1960, Caves 1971, Han and Terpstra 1988, Tse and Gorn 1993). From an international business (IB) theory perspective, firm specific factors moderate location specific factors. Therefore, branded

products were expected to have smaller price premiums. As another example, country-of-origin may be used by the consumer as an information cue to infer product quality without having to test the product prior to purchase. Products in which the intrinsic quality of the product is more important (in other words, product failure will be more costly) may have greater COE effects as discussed in Chapter 2. Liefeld (1993), in a review of COE experimental studies, reported that more expensive items have been found to exhibit greater country-of-origin effects. An inference can be drawn that buyers of more expensive items would try to reduce the risk of product failure by using CGOM as an information cue even if this meant paying a higher price. Therefore, the size of purchase variable proxied for financial risk. H2 and H3 were tested using Data Set 1 through the following regression equation (and several variations of the equation).

$$Y=a+bNICLDC+cMDCLDC+dBRAND+ePDRISK \quad (1)$$

In cases where the raw data price ratio was that of product from an LDC over a product from an MDC, the reciprocal was used (e.g., 1/price ratio) to standardize the data. $P^{LDC/MDC} = 1/P^{MDC/LDC}$. For example, if the price ratio of an LDC country-of-manufacture smuggled product over an MDC country-

of-manufacture legal product was .5, the reciprocal would be equal to 2, indicating a price premium of 100% for the MDC product over the LDC product. The same procedure was conducted for $p^{NIC/MDC}$ and $p^{NIC/LDC}$. Using Data Set 1, this procedure allowed the use of more data points, since this aggregated the data.[10]

In another variation of the regression equation, cases where both the smuggled IE and legal import had the same CGOM (e.g., MDC and MDC), were not used because the price ratio was expected to be close to 1. Hence, if the dependent variable is a constant, none of the independent variables would have been significant. Dummy variables were used to operationalize the different product risk categories and branding as independent variables, where:

(1) NICLDC = 1 if Y was the price premium of an MDC import over a NIC import; 0 if it was otherwise.

(2) MDCLDC = 1 if Y was the price premium of an MDC import over an LDC import; 0 if it was otherwise.

(The referent variable using indicator coding was the price

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[10] In other words, the data in the upper off-diagonal cells of Table 4.3 were aggregated to the data of the lower off-diagonal cells of the table. This aggregation assumed that there are no differences in price ratios between IE MDC imports over legal LDC imports from legal MDC imports over IE LDC imports. This applied as well to NIC/LDC, and MDC/LDC ratios. This assumption was statistically tested in Chapter 5.

premium of an MDC import over a NIC import; since the categories were mutually exclusive, this dropped out and became the constant (Johnston 1972).)

The expected coefficient for MDCLDC were expected to be positive because, following H1b, the price premiums of MDC products over LDC products were expected to be greater than the price premiums of MDC products over NIC products. There was no hypothesis comparing the MDCNIC variable to the NICLDC variable.

(3) BRAND = 1 if product was branded; 0 if product was unbranded.

(4) PDRISK = 1 if product was high risk because of large purchase price(>$50); 0 if product was low risk because of small purchase price (<$50).

The coefficient for the branding variable was expected to be negative since the brand name was expected to decrease reliance on the CGOM as an information cue. On the other hand, the sign for the coefficient of the product risk class was expected to be positive because the size of purchase as a proxy for riskiness should have increased price differences caused by CGOM effects.

Chapter Five

Results: Tests of Country-of-Origin Effects

Descriptive Statistics of Data Set 1

The means and variances of the price ratios for each possible combination of country groups are presented in Table 5.1:

Table 5.1

Price ratios

CGOM of Denominator of Price Ratio	CGOM of Numerator of Price Ratio			
		MDC	NIC	LDC
	MDC	mean=1.01 s^2=.002 n=36		
	NIC	mean=1.34 s^2=.02 n=16	mean=1.01 s^2=.002 n=20	
	LDC	mean=1.69 s^2=.13 n=19	mean=1.29 s^2=.014 n=17	mean=1.01 s^2=.005 n=16

In the table, the horizontal column represents the numerator, and the vertical column the denominator, of the price ratios. The lower off-diagonal cells show the price ratios of the MDC/NIC, MDC/LDC and NIC/LDC combinations with the numerator and the denominator comprising both IE and legal imports. For example, if the raw data price ratio was that of an LDC informal economy import over a NIC legal import, the ratio's reciprocal was used and aggregated with the data of the NIC informal economy imports over LDC legal imports ratios to derive means and variances (e.g., $P^{NIC/LDC} = 1/P^{LDC/NIC}$). This approach makes sense conceptually because both smuggled and legal imports were made by the same company, though the assumption that IE and legal imports were serving the same type of consumer can also be tested later. This aggregation results in a larger sample size and greater statistical power. The upper off-diagonal cells are therefore empty since their results were combined into the lower off-diagonal cells. The diagonal cells show the country group-of-manufacture of the IE import as the numerator and the country group-of-manufacture of the legal import as the denominator.

The summary statistics are as follows:

Total Data Set	Off-diagonal combinations
Mean=1.19	Mean=1.45
s^2=.087	s^2=.090
n=124	n=52

As shown by the above table, the price ratio of IE imports to legal imports (the diagonals) from the same country group (e.g., MDC, NIC or LDC) was very close to one, as expected. This result is consistent with the assumption that the IE imports were servicing the same market segments as the legal imports and faced the same demand curve.

This result does <u>not</u> support the argument that a different type of buyer patronized the smugglers' informal economy market from the type of buyer that used the legal market. The result is also a response to the price skimming argument. The smuggled goods sellers could not be price skimming since they sold their products with the same country group-of-manufacture at the same price as these products were sold in the legal market.

On the other hand, the imports (both IE and legal) from more developed countries were priced 69% more on average than the imports (both legal and IE) from the same MNE made in less developed countries and priced 34% more than the imports from newly industrializing countries. The imports from newly industrializing countries were priced 29% more than the imports from less developed countries. These findings were

consistent with Hypothesis 1.[1] These real market prices, which controlled for firm specific effects showed a country group-of-manufacture effect favoring the more developed countries over the lesser develcped countries.

Such findings are consistent with Hypothesis 1a and 1b, since the price premium of MDC imports was greater over the imports made in LDCs than the imports made in NICs. Since the prices of imports from NICs was greater than the prices of imports from LDCs, the findings were consistent with Hypothesis 1c.

Tests of Hypothesis 1: Results

T-tests were conducted to assess if the means of the price premiums of one country group over a different country group were significantly different from one, to test H1. Hypothesis 1a was supported, as the mean price premium of MDC imports over NIC imports was significantly greater than one ($t=9.71$, d.f. 15, $p < .01$). Hypothesis 1b was supported, as the mean price premium of MDC imports over LDC imports was significantly greater than the mean price premium of MDC imports over NIC imports ($t=3.9$, d.f. 33, $p < .01$). Finally,

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[1] Note that the phrase 'consistent with Hypothesis 1' is used instead of 'supported Hypothesis 1'. The hypothesis is neither supported nor not supported by descriptive statistics because there is no statistical test of significance. Statistical tests of significance are conducted later in this Chapter.

Hypothesis 1c was also supported as the price premium of NIC imports over LDC imports was significantly greater than one ($t=10$, d.f. 16, $p < .01$).

As further support of Hypothesis 1, the categories of imports where the numerator was from the same country group (e.g. MDC, NIC or LDC) as the denominator were compared using t-tests. Their means which were very close to one, and were not statistically significantly different from each other (e.g., $1=p^{MDC/MDC}=p^{NIC/NIC}=p^{LDC/LDC}$). These means were significantly different from the means of $p^{MDC/NIC}$, $p^{NIC/LDC}$ and $p^{MDC/LDC}$ imports as predicted. Therefore, no buyer preference was shown when imports came from the same country group. This result also supported our assumption of buyer homogeneity for both illegal informal and legal formal markets.

In summary, Hypothesis 1, that actual market prices would show a hierarchical ordering of preferences indicating country group-of-manufacture effects, was supported. Imports from the same group of countries did not show CGOM effects, whereas imports from different groups of countries showed CGOM effects. Buyers, as expressed by their actual price preferences, did not distinguish among goods whether they were informal economy (smuggled) imports or legal imports, but they did distinguish among goods from different groups of

countries, even if the product was manufactured by the same MNE.

Hypotheses 1a, 1b and 1c were supported because of the direction and relative magnitudes of the price premiums. Buyers showed that they were willing to pay higher prices for imports from more developed countries over imports from newly industrializing countries even if these were made by the same MNE. They showed willingness to pay even higher price premiums for imports from more developed countries over imports from less developed countries even if these were made by the same MNE. Imports from newly industrializing countries were preferred over imports from less developed countries even if these were made by the same MNE.

Further tests were conducted by more finely splitting the categories of imports from one group of country over a different group of country. The results reported above had aggregated IE imports and legal imports together, i.e., legal and IE imports from more developed countries over the IE and legal imports from less developed countries. The results in Table 5.2 below, however, compare the price ratio of IE imports from more developed countries over the legal imports from lesser developed countries (of the same MNE), to the price ratio of the legal imports from more developed countries

to the price ratio of IE imports from lesser developed countries.

Table 5.2

Price ratios of IE imports/legal imports compared to price ratios of legal imports/IE imports using different CGOM combinations

	IE imports/ legal imports	legal imports/ IE imports	Difference in means
MDC/NIC	mean=1.32 s^2=.008 n=10	mean=1.37 s^2=.045 n=6	-0.05
NIC/LDC	mean=1.30 s^2=.010 n=9	mean=1.28 s^2=.021 n=8	0.02
MDC/LDC	mean=1.50 s^2=.013 n=11	mean=1.95 s^2=.181 n=8	-0.45** **p <.01

These results show that the mean price premium of IE imports made in more developed countries over the legal imports from newly industrializing countries was 32%, while the mean price premium of legal imports from more developed countries over IE

imports from newly industrializing countries was 37%. T-tests showed that the price premiums between the two categories were not significantly different (t=1.24, d.f. 14, p >.10)

The mean price premium of IE imports from newly industrializing countries over the legal imports from less developed countries was 30% even if made by the same MNE. The mean price premium of legal imports from newly industrializing countries over the IE imports from less developed countries was 28%. The difference between the two categories was not statistically significant (t=.33, d.f. 15, p >.15).

The mean price premium of IE imports from more developed countries over the legal imports from less developed countries was 50% even if made by the same MNE. However, the price premiums of legal imports from more developed countries over the IE imports from less developed countries was 95%. This result could indicate that a slight penalty was being paid by the buyers in patronizing the smuggler's market, e.g., the possibility of buying counterfeit products. The difference in the two categories was statistically significant (t=3.0, d.f. 17, p <.01). This result should be interpreted with caution since the sample sizes (11 in the former and 8 in the latter categories), are very small.

In summary, the comparisons between the IE imports and the legal imports statistically support our assumption that the slope of the demand curves for the two markets - the smuggler's market and the regular market - was approximately the same. This supports the assumption that the price premiums were due to country group-of-manufacture effects and not to price skimming. The two markets were within the same city, in the same general neighborhood, physically similar, and there are no practical impediments to the buyers shopping in the smuggler's market.

Tests of Hypotheses 2 and 3: Results

To test Hypotheses 2 and 3 on the effects of branding and purchase risk on the price premiums, several different OLS regression equations were employed. In the first run, the entire sample of 124 products was utilized with the price ratios as the dependent variable.[2] Six different categories of country group-of-manufacture were used as the CGOM independent variable. The categories were MDC/MDC, NIC/NIC, LDC/LDC, MDC/NIC, NIC/LDC, and MDC/LDC with MDC/MDC as the referent category. The results are presented in Tables 5.3 and 5.4 below.

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[2] This allowed greater statistical power. However, it created the problem of including import ratios with the same COM for the numerator and denominator. This problem was later rectified in another regression equation shown later in this Chapter.

Table 5.3

Regression Model [Eq 5.1]: Complete Data Set 1

	Tests of significance	p level
Over-all model	F = 45.95	<.01
CGOM	F = 58.88	<.01
Branding	F = 4.53	<.05
Purchase Risk	F = 6.37	<.05
Adjusted R^2=.72	Total n = 124	

The equation was statistically significant and explained 72% of the variance in the dependent variable. H2: Branding (F = 4.53, d.f. 1), and H3: purchase risk (F = 6.37, d.f. 1), are both significant at the <.05 level. The Beta coefficients indicate that branded products reduced price premiums by 7% compared to unbranded products, and riskier products (>$50 purchase price) increased the price premiums by 8% over less risky products (<$50 purchase price). The CGOM variable was significant overall at the <.01 level as indicated by the F-ratio reported in Table 5.3.

Table 5.4

Regression [5.1] Parameters: CGOM Variables

	Beta Coefficients	t-values	p level
NIC/NIC	-.02	-.47	.64
LDC/LDC	.00	-.03	.98
MDC/NIC	.32	6.72	<.01
MDC/LDC	.66	14.81	<.01
NIC/LDC	.26	5.68	<.01

Compared to the price ratio of MDC/MDC imports, which was earlier showed to be very close to 1 (i.e., there was no price premium), the price premiums of MDC/NIC, NIC/LDC and MDC/LDC imports were significantly, whereas the price premiums of NIC/NIC and LDC/LDC imports were not significantly different from MDC/MDC imports. The beta coefficients showed that MDC/NIC import price premiums were about 32% greater than the MDC/MDC ratio, NIC/LDC price premiums were 26% greater than the MDC/MDC ratio and MDC/LDC price premiums were 66% greater than the MDC/MDC ratio. Thus MDC/LDC > MDC/NIC > 1 and NIC/LDC > 1. These results further supported Hypotheses 1a, 1b and 1c.

A second regression equation was run, again using the price ratios as the dependent variable, and CGOM, branding and purchase risk as the independent variables. However, only part of the sample was used - imports which were from the same country category (MDC/MDC, NIC/NIC, and LDC/LDC). These were used as separate categories for the CGOM variable. This procedure was conducted to determine if the buyers did not show a preference when the imports were from the same type of country, even if one was smuggled, and the other legally imported. As expected, the regression equation was not significant. Since the dependent variable, price was tightly clustered around the value of 1, the CGOM variable was not significant, nor did the branding and purchase risk variables account for a significant proportion of the observed variance of this regression. The results presented in Table 5.5 below support the assumption that the smuggled imports and the legal imports <u>were not</u> serving different buyers in different markets. The informal economy sellers could not have been price skimming if their products were selling for roughly equivalent prices to the legally imported products which were widely distributed and available.

Table 5 5

Regression Model [Eq 5.2]: Same CGOM only

		Tests of significance	p level
Over-all model		F = .44	.65
Branding		F = .66	.42
Purchase Risk		F = .19	.66
	Adjusted R^2 =.00	Total n = 72	

A third regression equation was run using the other part of the sample, the price ratios for the imports with different country combinations, i.e., MDC/NIC, NIC/LDC, MDC/LDC.[3] The results are presented in Table 5.6, below.

[3] This equation rectifies the problem mentioned earlier when the price ratios (numerator and denominator) of imports from the same country group were included in the sample.

Table 5.6

Regression Model [Eq 5.3]: Different CGOM only

	Tests of significance	p level
Over-all model	F = 11.87	<.01
CGOM	F = 16.84	<.01
Branding	F = 7.0	<.05
Purchase Risk	F = 7.7	<.01
Adjusted R^2=.46	Total n = 52	

The equation is significant at the p <.01 level, and, despite the reduction in sample size and number of variables, still shows high explanatory power, with an overall proportion of variance explained of .46. Branding was significant (t=2.66, p <.05) and decreased price premiums by .17%. Note that, as expected, this reduction was greater than the effect shown in the first regression equation above, since there is greater variation in the dependent variable. Purchase risk was also significant (t=2.78, p <.01) as imports purchased for >$50 had .19% greater price premiums than the imports purchased for

<$50. These results provided further support for Hypotheses 2 and 3. Using MDC/NIC as the referent category for the COO variable, the price premium of MDC/LDC was .34% greater and statistically significant (t=4.49, p<.01) supporting Hypothesis 1b.

Comparison of Means

The cell means for branded and unbranded imports, and for high purchase risk (>$50) and low purchase risk (<$50) imports, by the three different CGOM categories are presented in Tables 5.7 and 5.8, below.

Table 5.7

Price ratios of branded imports compared to price ratios of unbranded imports using different CGOM combinations

	Branded imports	Unbranded imports	Difference in means
MDC/NIC	mean = 1.26 n = 10	mean = 1.48 n = 6	-.22***
NIC/LDC	mean = 1.25 n = 11	mean = 1.35 n = 6	-.10
MDC/LDC	mean = 1.66 n = 12	mean = 1.75 n = 7	-.09

*** p <.01

Table 5.8

Price ratios of high purchase risk imports compared to price ratios of low purchase risk imports using different CGOM combinations

	Hi risk imports	Low risk imports	Difference in means
MDC/NIC	mean = 1.42 n = 4	mean = 1.31 n = 12	.11
NIC/LDC	mean = 1.39 n = 5	mean = 1.24 n = 12	.15**
MDC/LDC	mean = 1.82 n = 6	mean = 1.63 n = 13	.19*

* $p < .1$ ** $p < .05$

As expected, the price premiums of branded to unbranded imports were lower for every category. The price premiums for high purchase risk were higher than the price premiums for low purchase risk in every category. Several analysis of variance tests were used to test for interaction terms between CGOM and

branding, between CGOM and purchase risk, and between branding and purchase risk. All these potential interaction terms were nonsignificant. However, the results presented in Table 5.7 and 5.8 indicate that there are potential interaction effects. For example, in Table 5.7, branding interacts with CGOM when branded MDC/NIC imports are compared to unbranded MDC/NIC imports. In Table 5.8, product risk interacts with CGOM when low risk NIC/LDC and MDC/LDC imports are compared to high risk NIC/LDC and MDC/LDC imports, respectively. Since, the cell sizes become smaller when interaction terms between independent variables are tested, obtaining significant interaction effects in ANOVA tests become more difficult. There could be differences in the magnitude of interaction effects between products of different CGOM if these products consisted of different categories or types of products.

Further analysis was conducted to assess if the branding and purchase risk variables were different across the categories if the price premium of IE imports from more developed countries over legal imports from newly industrialized countries of the same MNE were categorized differently than the price premium of legal imports from more developed countries over the IE imports from newly industrialized countries. This analysis led to six different categories as shown in Tables 5.9 and 5.10 below.

Table 5.9

Price ratios of branded imports compared to price ratios of unbranded imports using different CGOM combinations

		Branded imports	Unbranded imports	Difference in means
MDC/NIC	IE import/ legal import	mean = 1.28 n = 7	mean = 1.43 n = 3	-.15
	Legal import/ IE import	mean = 1.21 n = 3	mean = 1.53 n = 3	-.32
NIC/LDC	IE import/ legal import	mean = 1.26 n = 6	mean = 1.37 n = 3	-.11
	Legal import/ IE import	mean = 1 24 n = 5	mean = 1.33 n = 3	-.09
MDC/LDC	IE import/ legal import	mean = 1.46 n = 7	mean = 1.57 n = 4	-.11
	Legal import/ IE import	mean = 1.94 n = 5	mean = 1.97 n = 3	-.03

Table 5.10

Price ratios of High risk imports compared to price ratios of Low risk imports using different CGOM combinations

		Hi risk imports	Low risk imports	Difference in means
MDC/NIC	IE import/ legal import	mean = 1.35 n = 2	mean = 1.32 n = 8	.03
	Legal import/ IE import	mean = 1.50 n = 2	mean = 1.31 n = 4	.19
NIC/LDC	IE import/ legal import	mean = 1.37 n = 3	mean = 1.27 n = 6	.10
	Legal import/ IE import	mean = 1.43 n = 2	mean = 1.22 n = 6	.21
MDC/LDC	IE import/ legal import	mean = 1.55 n = 3	mean = 1.48 n = 8	.07
	Legal import/ IE import	mean = 2.08 n = 3	mean = 1.87 n = 5	.21

Again, despite the small sample sizes, the relationships were consistent. Branded products had consistently smaller price premiums than unbranded products across all the categories. Higher purchase risk products had consistently higher price premiums than the lower purchase risk products across all the categories. These results are again consistent with Hypotheses 2 and 3. These results also further suggested validity to our assumption that IE imports in the smuggler's market and legal imports in the regular markets served the same buying markets.[4]

Summary of Data Set 1 Analysis

In summary, Hypotheses 2 and 3, as well as Hypothesis 1, were consistently supported. Buyers showed a willingness in actual purchase behavior to pay higher CGOM price premiums when the product was not branded. This result supports the theory that brands are used by buyers in a similar manner to country-of-origin information. Both serve as information cues that influence the buyer's behavior. Branding could reduce the country-of-origin effect by giving some confidence to the buyer that the product quality or characteristics would be similar whether the product was made in a less developed

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[4] This assumption refers to buyers in the formal and informal economy markets of Dau, a town in the Philippines, not to the total national market. This distinction will be important in a later discussion in Chapter 9.

country or a more developed country (e.g. since it was made by the same MNE). Note that branding only served to moderate the country-of-origin effect, not eliminate it. The branded goods still exhibit a price premium in the hypothesized direction.

Buyers showed a willingness to pay higher CGOM price premiums for higher purchase risk products than less risky products. This result supported the theory that country-of-origin information serves as a cue that creates differentiation in expectations of product performance. Buyers could have used CGOM as an assurance that the product would meet performance or quality expectations thus justifying a higher price premium for products made in a more developed country than that made in a less developed country even by the same MNE. Consequently, the price premium was lower for lower purchase risk products since the buyer could have been more willing to take a chance on product failure, therefore, the country of manufacture would have mattered relatively less.

Buyers showed a strong preference for imports from more developed countries over lesser developed countries, e.g., MDC/LDC > MDC/NIC > 1, and NIC/LDC > 1. These price premiums could be rational responses as a reflection of higher quality in the products made from more developed countries compared to products from lesser developed countries even if made by the

same MNE. Alternatively, there could be no real differences in quality, but due to buyer lack of information or lack of experience with the products, the country-of-origin had a halo effect (Han 1989), creating a gap between perceived value and real value (Porter 1985). This gap might exist for a long time until repeated experience with the products convince the buyers that an MNE can produce equal quality products regardless of the country of manufacture.

Chapter Six

Literature Review: General theories of international business

Just as an MNE may have a choice between production locations in different countries to serve a market, an MNE also has a choice in servicing a foreign market via different modes of production: through exporting, licensing, joint ventures or wholly-owned subsdiaries. This is an important international business decision that has been extensively discussed in the theoretical literature on MNEs and internationalization. The determinants of this decision have been empirically tested on the cost side of the equation. There is, however, a gap in the empirical literature regarding the revenue or the product pricing side of the business decision. This Chapter reviews the literature in international business and on MNEs that have considered the implications of different alternatives in mode choice. Hypotheses are presented at the end of the Chapter that can be used to test mode effects on the demand side.

General theories of international business have been actively discussed and developed in the management research literature over the last thirty years. Prior to this time, the discussion was limited to the field of trade economics. Adam Smith first proposed that trade between countries occurs only when a

country has an absolute advantage in a specific product. Ricardo developed the theory of international comparative advantage in 1819 (Heilbroner, 1980). He successfully showed that trade benefits countries even if absolute advantages between nations do not exist. This research stream, developed and elaborated for over a century, and culminating in the Heckscher-Ohlin-Samuelson models (Rugman, Lecraw and Booth 1985), was at the country level of analysis. Due to its basis in neoclassical economics, (i.e., production functions were assumed to be identical within a nation), there was little mention of the firm, and the only inference that could be drawn from this work was that firms rely on the comparative advantages and factor endowments of their home country (such as their country's natural resource base), to enable them to export competitive products.

Hymer's dissertation in 1960 provided the seminal work in international business for firm-level analysis. Hymer proposed that the monopoly or oligopoly power derived from the capability of large multinational firms to develop and market technologically superior products enabled them to operate

subsidiaries across national borders successfully.[1] This theory was essentially based on industrial organization economics, using the concepts of market structure and entry barriers (Bain 1956). Hymer's theory also lent itself to the demand side of IB theory, since it assumed product differentiation. Product differentiation was in fact emphasized by Caves' (1971, 1974) subsequent works in analysing MNE investment patterns from an industrial organization perspective. However, Hymer and Caves did not fully explain why firms engage in foreign direct investments with management control, and why firms extend their boundaries across national borders, instead of conducting arms length transactions through exports and still profiting from their competitive advantage.

In the late 1970s and in the 1980s, internalization theory came to dominate the international business literature. Internalization, based on transaction cost economics (Coase 1937), sought to explain why firms internalized international transactions through multinational subsidiaries instead of

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[1] Note that Hymer, in addition, also thought that MNE success could be brought about by collusion or market closing activities, implying net welfare loss, not just through firms' competitive advantages gained from technology or superior management, which implies net welfare gain. This aspect of Hymer's work is beyond the scope of this study. See Lecraw 1985, and Dunning and Rugman 1985 for a more thorough discussion of this issue.

simply exporting to sales agents or distributors owned by local firms in the foreign location or licensing to foreign producers.[2] This approach focused the discussion on the cost side, as the minimization of transaction costs (including transportation and tariff costs) provided the primary rationale for MNEs in the literature. It was suggested by internalization theorists that international trade occurs within hierarchies (intra-firm trade), when internalizing transactions is economically more efficient than externalizing transactions through the market (inter-firm trade). Conversely, of course, it also provides the rationale for engaging in market-oriented transactions, i.e., exports and licensing, when market transaction costs are low.

Appropriability is a concept which is a subset of internalization. Magee (1976) suggested that sophisticated technologies produced by MNEs are more likely to be appropriated, that is transferred intra-firm as in FDI, rather than sold inter-firm, as in licensing. He argued that internal transfers of information are more efficient, and returns from investment in R & D need to be maximized before the information is imitated by competitors, JV partners or licensees (Calvet 1981).

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[2] Some authors (e.g., Horaguchi and Toyne 1990) contend that Hymer saw transaction costs as fundamental.

The OLI Framework

Despite the theoretical parsimony provided by internalization arguments, the complexity of real world international business, which is conducted through many different modes of entry and operation, and with rationales and underlying conditions that vary greatly, demands a more comprehensive perspective. The 'eclectic paradigm of international production' developed by Dunning (1977, 1981, 1988, 1991) probably provides the most useful currently available framework for analysing international business phenomenon. Essentially, Dunning has argued that the three main explanations for international business in the literature: country comparative advantage (e.g., Ricardo, Heckscher, Ohlin, Samuelson), firm specific advantage (e.g., Hymer 1960, Caves 1971, 1974) and internalization advantage (e.g., McManus 1972, Buckley and Casson, 1976, Magee 1976, Rugman 1980), have to be applied simultaneously and interactively in a single framework to understand the different macroeconomic, microeconomic and government factors that influence international business activity. This is called the ownership specific advantage-location specific advantage-internalization advantage (OLI) framework.

Dunning's OLI framework, while widely cited, has also been

criticized for indeterminacy, redundancy and lack of specificity (e.g., Itaki 1991, Woodcock 1993). For instance, ownership and location specific advantages are difficult to categorize distinctly from one another either theoretically or empirically, and internalization factors are difficult to distinguish from ownership and location factors. Internalization is particularly difficult to operationalize and test (Buckley 1988). However, these are necessary tradeoffs to gain comprehensiveness and applicability to as many real world situations as possible. For example, Dunning (1988) showed that the framework explains the main types of international production: market seeking, resource seeking and efficiency seeking, equally well. Dunning originally developed the OLI framework to explain FDI flows, and therefore, the existence and growth of MNEs, but its components and embedded logic are also useful for explaining cases of non-FDI IB modes (Dunning 1980). The fact that the framework cannot be falsified in hypothesis form, since it incorporates a number of competing or at least substitutable theories, has led Dunning to relabel it from the 'eclectic theory' to the 'eclectic paradigm' of international production, but that does not make it less useful. The theories that reside within the framework are by themselves testable.

Dunning (1980) conducted a limited empirical test of the

eclectic theory (as it was then called), focusing on ownership and location advantages. Using secondary U.S. data from the 1960s for several industries as crude proxies for some theoretically predicted advantages factors, Dunning found statistical support for the notion that American MNEs were more active in higher value-added industries.

Lecraw (1983, 1984) interviewed managers of 153 U.S., European, Japanese and less developed country MNE wholly-owned subsidiaries and JVs in Indonesia, Malaysia, Philippines, Singapore and Thailand in the 1970's. He found that technological leadership and advertising intensity, both of which can be considered firm specific advantages, were positively related to level of equity ownership and profitability. These results also supported internalization theory.

Davidson and McFetridge (1985) tested the relationship between technology transfer and mode choice between FDI and licensing. Using secondary data on more than 1,200 technology transactions of U.S. MNE's from 1945-1978, they found statistical support for internalization theory since intra-firm transfer to WOSs was greater for newer technologies than older technologies, for core technologies and for more R & D intensive technologies. Location advantage was weakly

supported by geographical and cultural proximity factors but surprisingly not by economic or government policy factors.

Gatignon and Anderson (1988) tested nine independent variables based on internalization theory (of which some can also be described as ownership and location specific factors) to the choice between WOS and three levels of JV investment (majority equity, equal, or minority) as entry modes. Using 1,267 observations of entry mode choices in the Harvard Multinational Enterprise data base for U.S. MNCs from 1960 to 1975, they found that brand name capital (called brand equity in the marketing literature), as proxied by advertising intensiveness, had a "considerable impact" (p. 323) on the choice between WOS and JV. R & D intensiveness had a relatively weaker impact, but was a highly significant factor as well. These two factors overshadowed other explanatory variables such as country risk, legal restrictions, scale effects, experience and socio-cultural distance. Gatignon and Anderson concluded that the importance of brand equity demanded that MNEs exert greater control, as implied by mode choice, to preserve the brand name and the quality associated with it (Hennart 1982). Gatignon and Anderson used asset specificity from an internalization theory perspective (Williamson 1985) to explain this result, but product differentiation from an industrial organization view can also

be used as an alternative theoretical explanation (Caves 1971, 1982).

The empirical works by Dunning, Davidson and McFetridge, and Gatignon and Anderson may be biased by their exclusive use of American MNE data and results from non-American MNEs might be different. Lecraw (1983) did find that American, Japanese, European and LDC MNEs competed on the basis of different firm specific advantages. Product life cycle theory explains why American MNEs might have a biased disposition towards the internationalization of R & D intensive and heavily branded goods (Vernon 1966, 1979, Wells 1972).

Agarwal and Ramaswami (1992) explicitly tested entry mode choice within the OLI framework using primary survey data from 97 American leasing firms for 285 instances of market entry in the U.K., Japan and Brazil by these firms. They hypothesized that O factors would consist of firm size, multinational experience and ability to develop differentiated products, L factors would be market potential and investment risk, and I factors would be contractual risk - all measured through perceptual responses from a top manager from each firm. Categorical dependent mode variables were: no involvement, exporting, licensing, JV and WOS. Among other findings, Agarwal and Ramaswami found several results relevant to

product differentiation. An interaction effect between a firm's ability to develop differentiated products and high contractual risk was shown. The researchers concluded that firms were concerned about possible loss of advantage in markets with higher perceived contractual risk. However, companies tended to offset these risks through higher levels of product differentiation in WOS or JV modes. Agarwal and Ramaswami also concluded that firms derive market power not from size, but through product differentiation. This study's findings have to be treated with some caution, since the peculiarities of leasing as a service industry might not extend to exports of manufactured goods.

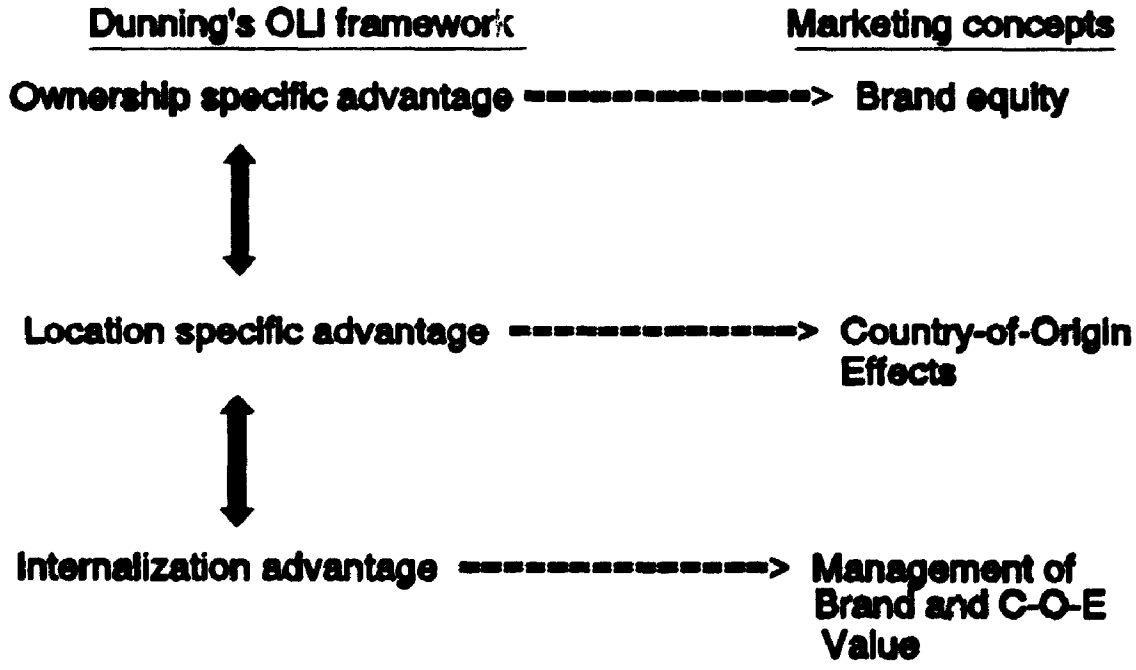
The OLI framework played a direct role in the analysis of this thesis' data because the underlying general notion guiding the work herein is that price differences among products are due to product differentiation. The sources of this differentiation come from ownership specific advantages at the firm level, location specific advantages at the COO level, and internalization advantages at the intra-firm or inter-firm level. See Figure 6.1 below. It is important to note that location advantage is being used in this dissertation in a slightly different way than Dunning has used it in the past. Dunning has used it to explain foreign direct investment (FDI) flows, e.g., a country has a location advantage when it

attracts FDI due to its factor endowments, market size, or natural resource base. This thesis uses location with a consumer perspective, e.g., a country has a location advantage when consumers value its products more. The two uses are not exclusive, i.e., a country can have both types of location advantage. Yet a country with lower cost but lower quality products may have a location advantage in Dunning's sense and a location *disadvantage* from a buyer's perspective.

Product differentiation may be perceptual or tangibly real.

Figure 6.1

Integrating the OLI framework with concepts from Marketing



COO creates product images that influence how consumers perceive products. Although these images may be inaccurate or may lag the reality of a product's performance, their influence on consumer behavior (e.g., willingness to pay price differences) can be real. Products may also have tangible differences in quality, which consumers experience leading to word-of-mouth, reputational and future purchase behavior effects. The benefit may be intangible, such as high status image, but even status may have been based on historical experience of higher quality. Our underlying general assumption is that OLI factors over time serve as the basis for rational managerial and corporate decisions and behavior. This process results in product differentiation, leading to COO and brand value. It links strategic managerial decision making in international business through a normative, efficiency-based framework to buyer behavior.

Mode Effects

The COE literature review in Chapter 2 did not mention the different internationalization modes since it has not been previously considered by marketing researchers in explicit fashion. Implicitly, the comparison of location choice between home countries and host or third countries meant exports or FDI. However, the focus in this work was on location *per se* not on mode. Realistically, consumers may not necessarily try

to check to see if an MNE product was made under licensed, JV or WOS production. However, the IB mode literature suggests that product quality may differ according to the mode used, which implies a potential effect on buyers, and consequently, prices (Buckley and Casson 1976, Hennart 1982, Casson 1983, Rugman, Lecraw and Booth 1985, Parry 1985, Rugman 1985). Consumers' evaluations about the locally produced goods of foreign MNEs may vary due to real differences in quality caused by firms' mode choices. Product evaluation could have been arrived at by buyers through product usage experience, word-of-mouth, and other sources. Even if buyers do not have specific information on, nor care, *per se*, about mode alternatives, their purchase behavior (prices paid) over time and across products should reflect the differences in product quality between various modes. This behavior impacts COE, since the price premiums caused by COO would be moderated if home country product quality standards were maintained by the choice of mode in host country production.

Transaction costs and the concept of internalization offer a parsimonious way of looking at modes (Rugman 1985, Beamish and Banks 1987). MNEs internalize markets to minimize transaction costs, which are the costs of contracting. In terms of product quality, the greater the control of a firm over its manufacturing process (degree of internalization), the more

likely it can meet its quality standards (the less the costs of contracting that quality standards are met) (Hennart 1982, Parry 1985, Rugman, Lecraw and Booth 1985, Anderson and Gatignon 1986, Root 1987, Gatignon and Anderson 1988). Exporting from its home country offers the most control for the MNE, since the firm has complete ownership and managerial control over the production stages, and production is located in the MNEs' home country.[3] Wholly owned subsidiaries offer a somewhat lower but still high level of control. While the MNE still has complete control over the production process, the host country location of production means that the MNE has to contend with the different capabilities of the subsidiary's workforce and managers, and the raw materials, equipment, and other production factors that are location-based. [4] Joint venture production offers a still lower degree of control to the MNE, since control has to be shared with the local partner(s). Licensing offers the lowest level of control. While brand names and technology may be sold by the licensor,

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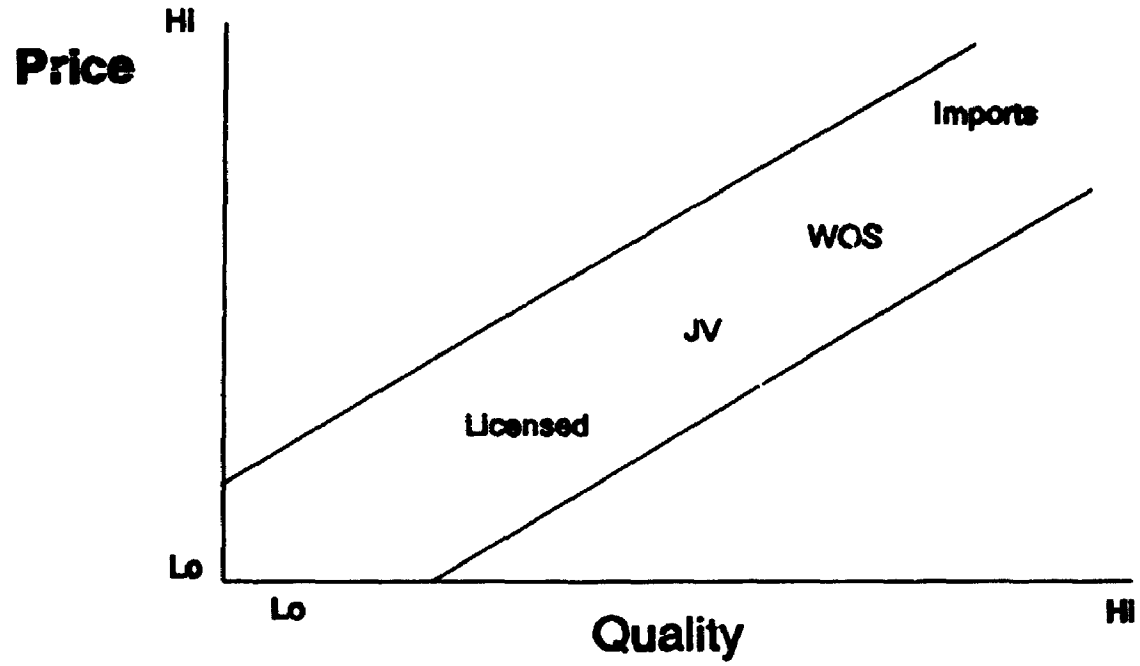
[3] Exporting to primary buyers in a foreign country (indirect exporting) might mean less control over the marketing aspects unless the MNE invests in a marketing affiliate (direct exports). However, the argument at this point focuses on real, functional product quality features which are production based. The research site controls for all marketing elements except the product itself, COO, and brand names.

[4] One can also apply a network perspective to this argument, to incorporate suppliers and other external actors (See Johanson and Mattson 1988).

the licensee has day to day control over the production process.[5] See Figure 6.2 below.[6]

Figure 6.2

Relationship of Price and Quality to Mode



Although theoretically interesting and managerially useful,

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[5] There are degrees of control within each mode. For instance, Killing (1982), Lecraw (1984), Schaan (1983) and Beamish (1988) have outlined ways in which firms could exercise more control within JVs, independent of equity position, and ways in which control can be less than total in a WOS. Such level of detail is beyond the scope of this study and the four modes (exports, licensing, JV and WOS) are viewed as categorically distinct.

[6] Acknowledgements to Professor Paul Beamish for suggesting this graph.

there has been little empirical research on the relationship between mode choice and product quality or buyer price preferences (the demand side perspective). From the supply side perspective, the studies by Gatignon and Anderson (1988) and Agarwal and Ramaswami (1992) that were reviewed earlier can be considered as supportive of the theory. In addition, Dunning (1986) interviewed the managers of 24 Japanese manufacturing subsidiaries and joint ventures in the U.K. He found that they preferred FDI to licensing because of the difficulty in guaranteeing quality control. The Japanese thought that potential licensees could not apply Japanese style management/philosophy to their operations. This finding supported the hypothesis that mode differences lead to quality and therefore price differences. It leads to the following hypothesis:

Hypothesis 4: Price differences between imported products (export mode) and the locally made versions of the same products by the same MNE will be greatest for locally-made licensed products, less for products made through joint ventures, and least for products made by wholly owned subsidiaries.

In some cases, MNEs will have no local production. The quality and, therefore, price advantage of an imported MNE product

versus a locally made UNE product is derived from the three OLI factors: ownership advantage from the technological, financial and managerial capability of the MNE, location advantage from production in the MNE's home country, and internalization advantage from exporting (which enables the MNE to preserve its ownership and location advantages). These reasons lead to the following hypothesis:

Hypothesis 5. Price differences between imported products and the competing products made locally by a UNE will be greater than the price differences between imported products and the 'identical' products made locally by the same MNE.

Chapter Seven

Research Method: Mode Effects

The data (in Data Set 2) for Chapters 7 and 8 of this dissertation were collected in the same manner and at the same research site as the data (in Data Set 1) for Chapters 4 and 5, and as previously explained in Chapter 4. The main difference in the 2 data sets is that mode is included as an independent variable in the analysis of Chapters 7 and 8 using Data Set 2 whereas it was not part of the earlier analysis. In Chapters 4 and 5, MNE imports of the same product but manufactured in two different foreign countries were compared. In this Chapter and the following one, price ratios between an MNE import and the same product made locally by the same MNE (or by a UNE if there was no MNE production in the Philipppines) are derived and examined.

Data set 2 consists of data for 321 products. In 222 of these cases, an IE import and an identical local (Philippine made) product made by the same MNE were both available to consumers. The local products were either made by a WOS, a JV or under license from the same MNE. Data were collected on whether Philippine production was through a licensing agreement from the MNE brand name holder to a Philippine-owned company, through a joint venture between an MNE and a local partner, or

through a wholly owned MNE subsidiary. This information was obtained directly from the product label or by investigating the company's status on government registry lists. The data set provided price ratios for the price of the IE MNE import over the price of the same product made locally by the same MNE (or under license from it). For the remaining 99 cases in Data set 2, the same product from the same MNE (as the IE import) was not locally made, so the closest competing product produced by a Philippine UNE[1] was used to provide the denominator for the price ratio. As in the Data set 1, the rest of the data consisted of dichotomous (1,0) variables denoting whether the product was an MDC, NIC or LDC import, whether the locally made version was made by a WOS, JV, licensing agreement or a UNE, whether or not it was branded, and whether the purchase price was >$50 or <$50. The variables are presented in the following table.

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[1] A UNE was defined as a local company without any foreign direct investments.

Table 7.1

Data Set 2

Variables

1. MDC IE import (1 if the smuggled import were made in a more developed country; 0 otherwise.)
2. NIC IE import
3. LDC IE import[2]
4. Locally made by a wholly owned subsidiary (defined as at least 80% foreign equity) (1 if the locally made product were produced by a WOS; 0 otherwise.)
5. Locally made by a joint venture
6. Locally made by a licensee
7. Not made by the same MNE locally[3]
8. If the product were branded (1 if branded; 0 otherwise.)
9. If the product were a big ticket item (> $50)
10. The ratio of the price of the IE MNE import over the price of the locally made product by the same MNE; if this MNE did not produce locally, the ratio of the price of the IE MNE import over the price of the nearest competing product made locally by a local UNE.

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[2] Note that the first three categories are mutually exclusive.

[3] Note that categories #4 to #7 are mutually exclusive.

This data set allowed the investigation through hypothesis testing of multiple aspects of the COE phenomenon as well as the demand side of mode theory. Since the data set contained ratios of actual market prices for products made by the same MNE (or under license from it), but in different country production locations, e.g., the smuggled goods (henceforth referred to as informal economy (IE) MNE imports) vs. the Philippine made goods of the same MNE (or under license from it), tests for country group-of-manufacture effects could be made while controlling for firm specific factors. From the perspective of Dunning's Ownership-Location-Internalization (OLI) framework, the study essentially controls for firm specific advantage factors to isolate the location specific advantage factors in the price premium. This results in a 'purer' measure of COE. [4]

Previous COE studies have neglected the impact of different modes of foreign production on product prices. Yet, IB theory suggests that differences between modes could have a significant effect on the ability of MNEs to implement their functional product differentiation strategies, as explained in Chapter 6. Since the second data set contains the relative prices of products made by MNEs in the Philippines through

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[4] 'Purer' than a measure that merely compares products from different countries but made by different companies.

different operational modes, i.e., WOS, JV and licensing relative to imports, the hypotheses regarding the relationship of mode choice to price premiums could be tested.

In tests using Data Set 1, Y was operationalized as the price of IE imported products over the price of legally imported products. Y was operationalized differently for this Chapter because the different modes needed to be accounted for as independent variables to test Hypotheses 4 and 5. Data Set 2 contains the relative prices of products made by MNEs in the Philippines through different operational modes, i.e., WOS, JV and licensing, as the denominator in the price ratio, so hypotheses regarding the relationship of mode choice to price premiums can be tested.

Since data on the different modes of production for the Philippine made MNE goods is in the data set, CGOM effects can be operationalized in a different manner. In effect, Y represents the price premium of an IE import over that of a Philippine made good.

$$Y = \frac{p^{IE}}{p^{MNEUNE}}$$

p^{IE} = *market price of the IE imported products*

p^{MNEUNE}

= *market price of the locally produced MNE product produced or licensed by the same MNE or the closest competing UNE product*

With *Y* operationalized in this manner, an independent variable could influence either the numerator or the denominator of the dependent variable or both. The coefficient of an independent variable would be positive if it increases the numerator (the price of an IE import) or decreases the denominator (the price of a locally made product by the same MNE). Conversely, the coefficient of an independent variable would be negative if it decreases the numerator or increases the denominator. The different operating modes are operationalized as categorical dummy variables, such that

$$Y = aNONE - bLIC - cJV - dWOS \quad (2)$$

where

NONE = 1 if the MNE product had no local production by the same MNE (but had a local UNE competitor); 0 if it was otherwise

LIC = 1 if the local MNE product was licensed; 0 if it was otherwise

JV = 1 if the local MNE product was JV produced; 0 if it was otherwise

WOS = 1 if the local MNE product was WOS produced; 0 if

it was otherwise.[5]

The signs for b, c and d were expected to be negative. For example, assume a situation in which the price ratio between an imported IE product and a local Philippine UNE-made product was 1.5 (e.g. the price of the import is 1 1/2 times the price of the local UNE good). Given the hypotheses, the price ratio of the imported IE product and the MNE-licensed locally-made product could hypothetically be less than 1.5, say 1.4. Therefore the regression coefficient in this case for LIC would be -.1 (i.e., the difference between 1.5 and 1.4).[6] As discussed in H5, LIC representing licensing, would decrease the COE price premium by increasing the denominator of the dependent variable Y compared to the denominator resulting from NONE (production by an unlicensed UNE).

Following the same example, the price ratio between an import and the local JV produced product would be expected to be even less than 1.4, say 1.3. Therefore it would have a regression coefficient of -.2 (the difference between 1.5 and 1.3). The

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[5] Note that the four categories are mutually exclusive.

[6] Note that this is not necessarily true. There is not an automatic one-to-one correspondence between an individual independent variable and the dependent variable in a regression equation. This example is being used to illustrate the relationships.

price ratio between an import and the local WOS version would then be expected to be less than 1.3, say 1.2. Therefore, it would have a regression coefficient of -.3 (the difference between 1.5 and 1.2). As discussed in H4, the COE price premium was expected to be decreased further (in other words, the denominator increased) by JV and by WOS production compared to licensed production since these modes could enable a company to produce local products that are closer in quality to those made in (and potentially exportable from) the home country. Therefore, a > b > c > d.

To the best of our knowledge, this is the first empirical investigation in IB research that has tested for the market demand effects of alternative production modes. Previous empirical research had focused on the cost/efficiency side.

The preceding regression equation was not complete because the numerator (the price of IE imports) might be affected by the country group-of-manufacture of the IE import as discussed in H1. This means that country-of-manufacture categorical variables have to be added in the data set as independent variables, such that:

$$Y = aLDC+bNIC+cMDC \quad (3)$$

where

LDC = 1 if IE MNE product were manufactured in an LDC; 0 if otherwise

NIC = 1 if IE MNE product were manufactured in a NIC; 0 if otherwise

MDC = 1 if IE MNE product were manufactured in an MDC; 0 if otherwise

The signs were expected to be positive because as the level of economic development of the country group-of-manufacture of the IE import increased, the price of the IE import (the numerator of Y) relative to the locally made product (the denominator of Y) was expected to increase. For example, if the IE import had an LDC country group-of-manufacture, a price ratio of 1.3 (i.e., the price of the LDC import over a locally made version of the product by the same MNE or a competing UNE would be 1.3 times) would be expected. If the IE import had a NIC country group-of-manufacture, then a price ratio of 1.4 would have been expected, therefore, we would expect a regression coefficient of +.1 (the difference between 1.3 and 1.4). If the IE import had an MDC country group-of-manufacture, then a price ratio of 1.5 might have been expected, and therefore, a regression coefficient of +.2 (the difference between 1.3 and 1.5).

Product characteristics, such as being branded or not, and

being a high purchase risk or not, could have an impact on COE by making country group-of-manufacture differences smaller and larger, respectively. Therefore, the product characteristics represented by dummy variables in H2 and H3 were in the regression equation testing H4 and H5 as well.

Test of Mode, CGOM, Product Risk, Brand Effects

The final regression equation testing for H4 and H5 as well as retesting H1, H2, and H3 on Data Set 2 is specified as follows. Essentially, equations (2) and (3) were combined, plus the variables for branding and purchase risk, into one equation. The equation (and variations of it), were applied, as well, to different subsamples of the total sample.

$$Y=\frac{p^{IE}}{p^{MNEUNE}}$$

p^{IE} = *market price of the IE imported product*

p^{MNEUNE} = *market price of the locally produced MNE product (or UNE product)*

such that

$$Y=a-bJV-cWOS+dNONE+eMDC+fNIC-gBRAND+hPDRISK \quad (4)$$

where,

JV = 1 if the locally produced MNE product were produced by a JV; 0 if otherwise

WOS = 1 if the MNE product were produced by a WOS; 0 if otherwise

NONE = 1 if the MNE product had no MNE local production; 0 of otherwise

(The referent variable using indicator coding was the licensed product; thus LIC dropped out and became part of the intercept (Johnston 1972), since local MNE product can only either be a WOS, a JV or a licensed product, the categories were mutually exclusive.)

MDC = 1 if the IE MNE product had an MDC COM; 0 if otherwise

NIC = 1 if the IE MNE product had an NIC COM; 0 if otherwise

(The referent variable using indicator coding for this mutually exclusive group of variables was LDC.)

BRAND = 1 if product was branded; 0 if not branded

RISK = 1 if product was high risk (>$50 purchase price); 0 if product was low risk ($<50 purchase price)

H1 (CGOM effects) were tested by variables MDC and NIC. The regression coefficients were expected to be positive because LDC country group-of-manufacture was used as the referent

variable. This meant that the MDC country-of-manufacture and NIC country-of-manufacture IE MNE products should have greater country group-of-manufacture effects, i.e., increases the price ratio of the IE import (the numerator of the dependent variable) over the local MNE product (the denominator). The coefficient of the MDC variable was expected to be greater than the coefficient of the NIC variable because its difference with the referent variable (the LDC variable) should have been greater. H2 (branding) was tested by BRAND, and should have a negative coefficient. Branded products should have lower price differences as branding should decrease CGOM effects.

H3 (Risk) was tested by RISK, and the coefficient was expected to be positive. This meant that higher risk products should have had greater price premiums as discussed previously.

H4 (mode effects) were tested with JV and WOS variables, and were expected to have negative coefficients. The referent variable for modes was the licensed product. Therefore, the WOS and JV products should have lower price premiums by increasing the denominator of the price ratio (increasing the price of the local MNE product) compared to the licensed product.

H5 was tested by NONE, and was expected to have a positive coefficient since the lack of local MNE production for the product would have meant a lower denominator for the price ratio. The denominator would have reflected the price of the UNE product that competed with the MNE import.

Descriptive Statistics

Simple descriptive statistics such as means and variances were employed to show the price premiums between products under different mode and country group-of-manufacture conditions. This procedure was necessary because the regression coefficients could only show whether the independent variables had a statistically significant effect on the dependent variables (the price ratios). Where the relationships were significant, the price ratios of the products with different characteristics could be compared. This procedure was useful to measure the actual magnitude of mode and country group-of-manufacture effects on the product prices.

Chapter Eight

Results: Tests of Mode Effects

Descriptive Statistics: Frequencies

First, a cross tabulation was performed on the data set to get the cell sizes for a COO by mode matrix. The matrix is presented in Table 8.1 below.[1] The frequency of mode in relation to the frequency of CGOM would be non-significant if there were no patterns within the matrix, e.g., such as certain modes being dominated by certain CGOMs or vice versa.

In Table 8.1, UNE means no local MNE production, but with a UNE competitor producing locally. In these cases, the price ratio is between the price of the MNE import over the price of the closest local UNE competing product. In the rest of the other cases, the price ratio is between an import made by an MNE from a certain country group-of-manufacture over the version of the same product made by the same MNE locally under a certain mode.

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[1] Products using a price ratio over UNE competitors meant that the MNE had no manufacturing operations in the Philippines and the products were imported in the informal economy to sell in the local market. The data for country group-of-manufacture refer to the production location and not the country of the MNEs headquarters. For instance, the product of an American MNE that manufactured in an LDC like Indonesia and had its product smuggled into the Philippines in the informal economy, would have had the product classified as an LDC import, not an MDC import.

Table 8.1

Frequencies in each CGOM and mode combination

	Chi-square = 6.0	d.f. = 2	Significance level = .42		
	UNE	WOS	JV	LIC	Tot
MDC	42	40	40	34	156
NIC	31	18	30	15	94
LDC	24	11	23	13	71
Total	97	69	93	62	321
	Percentage	of total	for each	CGOM	
	UNE	WOS	JV	LIC	Tot
MDC	27%	26%	26%	22%	100%
NIC	33%	19%	32%	16%	100%
LDC	34%	15%	32%	18%	100%
Total	30%	21%	29%	19%	100%
	Percentage	of total	for each	mode	
	UNE	WOS	JV	LIC	Tot
MDC	43%	58%	43%	55%	49%
NIC	32%	26%	32%	24%	29%
LDC	25%	16%	25%	21%	22%
Total	100%	100%	100%	100%	100%

The chi-square test was not significant, indicating no statistically significant relationships between the frequency of type of CGOM and type of mode in the product items in the data set. However, the pattern of the data did conform with theory.

There were proportionately more products without local production by the same MNE (as represented in the UNE column) when the imported products were made in NICs or LDCs. This meant that the MNE used other NICs and LDCs as production sites instead of the Philippines. This observation is consistent with the comparative advantage theory of trade. The comparative advantage of the Philippines would be more similar to NICs and LDCs than to MDCs.

MNEs with imports from MDCs were more likely to use WOS and licensing in local production to benefit from firm specific advantages. Control over operations in the former case, and the licensing of brand names and/or technology in the latter, implied the existence of competitive advantages.

MNEs with imports from NICs and LDCs, tended to use the joint venture mode for local production which implied that their firm specific advantages were not as strong, thereby needing a local partner. The pattern suggests that this study's data

set corrresponds with what would be expected by international business theory.

Descriptive Statistics: Price Ratios

The total sample in Data Set 2 was categorized along a 3 X 4 matrix to extract the descriptive statistics for each possible COO and mode combination to show the magnitudes of the price premiums according to mode and location origin. This analysis allowed comparisons among the different mode and country group-of-manufacture categories. The results are presented in Table 8.2 below.

In Table 8.2, each cell describes the statistics for each type of country group-of-manufacture as the numerator and each type of the mode of the same Philippine made product as the denominator for the price ratios. For example, the first cell is the price ratio for the price of a product imported from a more developed country over the price of the closest competing product made by a UNE in the Philippines. To the immediate right of the first cell, is the price ratio for the price of a product imported from a more developed country by an MNE over the price of the locally-made version by the same MNE under a wholly owned subsidiary mode.

Table 8.2

Price Ratios for each CGOM and mode combination

	UNE	WOS	JV	LIC	TOTAL
MDC	mean=2.02 s^2 = .06 n = 42	mean=1.64 s^2 = .06 n = 40	mean=1.66 s^2 = .03 n = 40	mean=1.73 s^2 = .03 n = 34	mean=1.77 s^2 = .07 n = 156
NIC	mean=2.01 s^2 = .05 n = 31	mean=1.54 s^2 = .03 n=18	mean=1.57 s^2 = .04 n = 30	mean=1.67 s^2 = .03 n = 15	mean=1.73 s^2 = .08 n = 94
LDC	mean=1.92 s^2 = .06 n = 24	mean=1.57 s^2 = .04 n = 11	mean=1.59 s^2 = .04 n = 23	mean=1.71 s^2 = .03 n = 13	mean=1.72 s^2 = .06 n = 71
TOTAL	mean=1.99 s^2 = .06 n=97	mean=1.60 s^2 = .05 n = 69	mean=1.62 s^2 = .04 n = 93	mean=1.71 s^2 = .03 n = 62	mean=1.75 s^2 = .07 n = 321

Analysis and discussion of price ratio data[2]

Over-all, the price premium of products imported from abroad over Philippine made products from the same MNE or from the

[2] Note that statistical tests of significance have not been conducted at this point, therefore the discussion is solely based on the descriptive statistics of the price ratios. Tests of hypothesis are conducted later in this Chapter.

closest competing UNE was 75% (see lower right hand corner of Table 8.2). Products made in more developed countries had a price premium of 77%, and products made in newly industrializing countries had a price premium of 73%.

Products made in and imported from less developed countries were priced 72% higher than locally made goods from the same MNE, a finding which is a bit surprising. One could reasonably have expected that the products made in less developed countries would have no or minimal price premium since the Philippines is also a less developed country. Perhaps the fact that these goods were imported was enough to create a price premium. It may be explainable if buyers assumed that an imported good would be better, without checking the actual country-of-origin on the product, but relying on the reputation of the distribution outlet as a source of imported products. The majority of the imported products came from more developed and newly industrializing countries, perhaps misleading the buyers of products with an LDC CGOM of their real CGOM. Therefore, buyer ignorance or indifference to country group-of-manufacture effect for a specific source country or country group may have been present even if buyers did discriminate between imports and locally-made goods. Preference for imports over local goods can be considered a general country-of-origin effect preference, or, conversely,

a negative country-of-origin effect for locally-made products.

Another explanation could be that the imported products from LDCs were perceived to be of 'export quality', i.e., goods of higher quality, that were selected from production runs specifically for export only, while the relatively lower quality output was sold in the local market of the source country. A third explanation could be that these LDC imports were only produced in LDC countries with export quality capabilities.

The relative magnitudes of the price premiums were consistent with Hypothesis 1, as imports from MDCs were priced higher than local made products relative to imports from NICs and LDCs. Imports from NICs were priced higher relative to local products compared to imports from LDCs, though not by much.

The relative price premiums of imports over locally made products followed the predicted pattern and was consistent with the hypothesis on mode effects (H4). Imports had a 71% price premium over locally made products made under license from the same MNE. Imports had a 62% and a 60% price premium over products made locally by joint ventures and by wholly-owned subsidiaries, respectively, by the same MNE. Therefore, the relative price premiums were as follows: imports/licensed

> imports/joint venture-made > imports/wholly-owned subsidiary-made. This indicates a buyer preference for goods made under more internalized modes of production.

The descriptive statistics were consistent with Hypothesis 5, as imports made by MNEs showed a price premium of 99% on average over locally-made products made by competing uninational (non-multinational) enterprises. Imports made in more developed countries were double the price of locally made products, at a 102% premium, as were imports made in newly industrializing countries, which had a 101% price premium over locally-made UNE products.

Even products from less developed countries were 92% more expensive than comparable locally-made uninational products emphasizing the firm-specific advantage of MNE products. This result emphasizes MNE firm specific advantage because the price premium over UNE products is much more than the price premium over products of the same MNE regardless of the COGM of the imports. The advantage could have been derived mainly from the MNE's firm specific advantage over a non-MNE or UNE. These results were consistent with Hypothesis 1 as well, as the relative price premiums showed MDC/local UNE > NIC/local UNE > LDC/local UNE.

Statistical tests of significance: Complete Data Set 2

OLS regression was used to test Hypotheses 2 and 3, branding and purchase risk effects, as well as to derive statistical tests of significance on country group-of-manufacture, mode and firm-specific effects being tested by Hypotheses 1, 4, and 5. The relationships of the different CGOM alternatives and mode alternatives were also compared. Several regression runs were performed using equations modified to use different referent variables to compare each CGOM category and mode category to every other category of each of the variables. Interaction terms between the mode and CGOM variables were also tried but were found to be not significant. The results are presented in Tables 8.3 and 8.4.

Table 8.3

Regression Model Eq[8.1]: Complete Data Set 2

	Tests of significance	p level
Over-all model	F = 39.23	<.01
CGOM	F = 4.48	<.05
Mode	F = 62.20	<.01
Branding	F = 8.30	<.01
Purchase Risk	F = 24.30	<.01
Adjusted R^2=.46	n = 321	

The over-all model was highly significant, and was also highly explanatory, explaining 46% of the variance in the dependent variable (the price ratios between imported and locally made products). CGOM, mode, branding and purchase risk were all significant as independent variables, supporting Hypotheses 1 through 5.

Table 8.4

Regression Parameters Eq[8.1]: Complete Data Set 2, CGOM and Mode Variables

	Beta coefficients	T-values	p level
MDC > NIC	.06	t = 2.34	<.05
MDC > LDC	.07	t = 2.56	<.05
NIC > LDC	.01	t = .38	.70
JV > WOS	.03	t = 1.06	.29
LIC > WOS	.12	t = 3.38	<.01
LIC > JV	.09	t = 2.58	<.05
None > WOS	.39	t = 11.89	<.01
None > JV	.36	t = 11.70	<.01
None > LIC	.28	t = 8.32	<.01

The price ratios of informal economy imports with no Philippine production by the same MNE (comparison made to closest competing UNE) showed significant differences from the price ratios of IE imports over locally produced products of all three modes from the same MNE. This result emphasized the firm specific advantages of MNEs and supported Hypothesis 5. Buyers showed a strong preference for imported MNE products over locally-made UNE products.

Buyers showed a significant preference for products made locally through WOS or JV, indicating mode effects. The price ratios of IE imports over products licensed locally by the same MNE were significantly greater than the price ratios of IE imports over products made locally by the same MNE through joint ventures or wholly-owned subsdiaries. However, the difference in price ratios between imports over joint venture local production and imports over wholly-owned subsidiary local production, while in the right direction, was not significant. Thus, Hypothesis 4 was supported in general, except that buyers did not exhibit relative price preferences for products by wholly-owned subsidiaries over products made by joint ventures. Since the parent MNE had equity and managerial input into a JV, it seems plausible that product quality in a JV could be comparable to that in a WOS. Aside from government restrictions, one of the main reasons for JV formation as opposed to WOS by MNEs, is the need to access complementary local skills and resources valued in the host market. In turn, the complementary skills brought to the JV partnership by the foreign MNE often include its ability to maintain product quality. The MNE has the incentive to maintain product quality in the JV to protect its brand name. For this reason, the quality produced by a JV could be close enough to that of a WOS that consumers would not care about the difference.

The price premium of imports made from MDCs over locally made products by the same MNE (or under license from the MNE) or a UNE was significantly higher than the price premiums of products from NICs or LDCs. Furthermore, the price premium differences between MDC and LDC imports was greater than the price premium differences between MDC and NIC imports. However, the price premium of imports from NICs was not significantly different than the price premium of imports from LDCs. Therefore, Hypotheses 1a and 1b were supported, but not Hypothesis 1c. This finding will be investigated further, later in this Chapter, by dividing Data Set 2 into two subsamples.

Branding was a significant variable ($B=-.09$, $t=2.89$, $p<.01$). As hypothesized, the branded products showed lower price premiums of imports over locally-made versions by the same MNE or by competing UNEs. Product risk was a significant variable as well ($B=.13$, $t=4.93$, $p<.01$). As hypothesized, products with a higher risk to the purchase, as measured by size of purchase per unit, showed higher price premiums. It should be noted that since the price premiums by definition are country group-of-manufacture effects, branding and product risk thus tended to decrease and increase, respectively, the magnitude of CGOM effects. Therefore, Hypotheses 2 and 3 were supported by the regression results.

It is evident from the preceding analysis that price ratios of imports over competing UNE products were much higher than the price ratios of imports over local production by the same MNE. Consequently, the sample was split and separate analyses were conducted on a sample using only the price ratio of imports over local production by the same MNE. A comparison of the split sample versus the whole sample is shown in Table 8.5 below.

Table 8.5

Comparison of Summary Statistics of the Sample with and without UNE products

	Total Sample	Sample without UNE
MDC	mean = 1.77 s^2 = .07 n = 156	mean = 1.67 s^2 = .04 n = 113
NIC	mean = 1.73 s^2 = .08 n = 94	mean = 1.58 s^2 = .04 n = 63
LDC	mean = 1.72 s^2 = .06 n = 71	mean = 1.63 s^2 = .04 n = 46
Total	mean = 1.75 s^2 = .07 n = 321	mean = 1.64 s^2 = .04 n = 222

Regression Results: Price Premiums of Imports over Locally-Made Products Produced by the Same MNE

Due to the greater price premiums of products with a UNE product as a denominator compared to products with an MNE product as the denominator, the mode, country-of-origin, branding, and product risk effects could have been amplified. A second OLS regression equation was run using the sample **excluding** the price ratios of the UNE products. This procedure controlled for the firm specific advantages of MNEs, since only ratios of products made by the same MNE (abroad and locally) were used. The results are shown in Tables 8.6 and 8.7 below.

Table 8.6

Regression Model Eq[8.2]: Local MNE Production Only

	Tests of significance	p level
Over-all model	F = 7.63	<.01
CGOM	F = 5.13	<.01
Mode	F = 7.00	<.01
Branding	F = 0.98	.32
Purchase Risk	F =23.02	<.01
Adjusted R^2=.15	n = 222	

The same independent and dependent variables as the first equation were used, with the exception that one category was dropped from the mode variable, the price ratio of imports over competing UNE products. The sample size was reduced to 222 cases. The over-all model was highly significant but the variance explained dropped to 15%, since the sample with the price ratio of imports over competing UNE products was explaining a major part of the variance in the first equation.

Table 8.7

Regression Parameters Eq[8.2]: Local MNE Production Only, CGOM and Mode Variables

	Beta coefficients	T-values	p level
MDC > NIC	.09	t = 3.17	<.01
MDC > LDC	.05	t = 1.48	.14
NIC > LDC	-.04	t = 1.24	.22
JV > WOS	.03	t = 0.94	.35
LIC > WOS	.12	t = 3.59	<.01
LIC > JV	.09	t = 2.92	<.01

The price premium of MDC imports over local goods made by the same MNE was signicantly different than the price premium of NIC imports over locally made goods. However, the price premium of MDC imports was not significantly greater than the

price premium of imports from LDCs over locally made products. The price premium of LDC products was in fact greater than the price premium of NIC products. However, this difference was not statistically significant. Therefore, Hypothesis 1a was supported but Hypotheses 1b and 1c were not supported.

The price premium of imports over products made through licensing was significantly greater than the price premiums of products made through either wholly owned subsidiaries or joint ventures. The price premium of imports over wholly owned subsidiary produced goods was not significantly greater than the price premium of imports over joint venture produced products. Over-all, these results indicated that Hypothesis 4 (mode effects), was partially supported and was consistent with the results of Equation 8.1, earlier in this Chapter.

Purchase risk was a significant variable ($t=4.80$, $p<.01$), increasing the price premiums by 14%. This result supported Hypothesis 3. However, Hypothesis 2 was not supported. Even though the sign of the coefficient was in line with the theory that branding acts to decrease CGOM effects, branding was not a statistically significant factor ($B=-.04$, $t=.99$, $p=.32$) in explaining the variations in price premiums. This result led to further analysis through cross-tabulation of the branding variable. Table 8.8 shown below presents the results of the

analysis.

Table 8.8

Branding by mode

	Total Sample inc. UNE	Sample without UNE	UNE only
Branded	258	199	69
Unbranded	63	23	30
Total	321	222	99
	Total sample inc. UNE	Sample without UNE	UNE only
Branded	80%	90%	70%
Unbranded	20%	10%	30%
Total	100%	100%	100%
	WOS	JV	LIC
BRANDED	62	88	49
UNBRANDED	6	5	12
TOTAL	68	93	61
	WOS	JV	LIC
BRANDED	91%	95%	80%
UNBRANDED	9%	5%	20%
TOTAL	100%	100%	100%

Table 8.8 shows that the majority of the imports and locally made products by the same MNE were branded. Only 23 out of 222 items with local MNE production were unbranded, perhaps

explaining why branding was not a significant variable in the previous regression equation. Joint venture local production was more often branded than WOS production, and subsidiary production was more often branded than licensed production. Once again, this was consistent with the theory that MNEs contribute brands to the joint venture. The proportion of branded goods was least in the subsample of price premiums of imports over local UNE products. A cross tabulation analysis on the frequencies of the different categories showed that the difference in frequencies were statistically significant. The finding supported the explanation that there was a relationship between the occurence of branding and the occurence of different modes implying some collinearity between the two variables.

There could also be some construct validity problems with the branding variable, since the the variable was coded as branded or not, based on the subjective interpretation of the data collector. However, this explanation is not consistent with the significant results obtained with the branding variable in the other statistical tests conducted on Data Set 1 in Chapter 5.

Aside from methodological explanations, there could also be conceptual reasons why branding was not a significant

variable. Saimee (1994) has suggested that consumers may discount the influence of country-of-origin information in relatively unimportant, low-involvement purchase situations and he also noted that well-known brands are typically considered to be in the high-involvement category. If it is assumed that the branded items in this subsample were mainly high-involvement products, and the unbranded products were mainly low-involvement products, then using Saimee's logic, unbranded products may have led to the discounting of COO information and the reduction of price premiums. This effect could cancel out the hypothesized effect in the regression results, i.e., that branded products would reduce price premiums relative to unbranded products. High involvement, branded products and low involvement, unbranded products would both reduce price premiums.[3]

Another explanation could be that even though the products were unbranded, the buyers looked for the name of the manufacturer on the label, and used it as an information cue, in conjunction with the use of COO as an information cue. This behaviour would decrease the distinction between unbranded and branded products and eliminate the effects of branding on price premiums. This explanation is, however, inconsistent

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[3] This explanation could also affect product risk since involvement and risk are related.

with the results of Chapter 5, when analysis of Data Set 1 showed branding as a significant independent variable.

Regression results: Price premiums of Imports over UNE products

A third regression equation was performed solely on the products with no local MNE production but with UNE production serving as the denominators for the price ratios. This procedure allowed the analysis of country-of-origin, branding and product risk effects solely on the products that were exported by the MNEs but not locally made by the same MNEs in the Philippines. The results of the regression are presented in Table 8.9 below.

Table 8.9

Regression Model Eq[8.3]: UNE Production Only

	Tests of significance	**p level**
Over-all model	F = 4.82	<.01
CGOM	F = 2.51	.08
Branding	F = 7.4	<.01
Purchase Risk	F = 4.8	<.05
Adjusted R^2=.14	n = 97	

The results of the third regression show that the over-all model was highly significant, with a variance explained of 14%. This time, while branding (B=-.13, t=2.72, p <.01) and purchase risk (B=.14, t=2.19, p <.05) were highly significant, CGOM was a significant variable only to the p < .10 level. The country group-of-manufacture of the imported product was not such a large contributor to the variance in price premiums of imported MNE products over local UNE products though the price premium was high. In other words, there was a high price premium regardless of the imported product's country group-of-manufacture source.

This finding indicated that when comparing imported MNE products to locally made UNE products, the fact that the product was an import gave it a huge price advantage (i.e., a consumer preference), regardless of its origin. This would again indicate an import preference, *per se*, but would still not explain the lack of country group-of-manufacture effects among the imports. In the instances when a buyer was considering purchase of an imported MNE product versus a locally made UNE product, the buyer might have disregarded country-of-origin information, if the information that the product was imported, *per se*, and was made by an MNE, was enough to convince the buyer of the product's value. This explanation implies an import halo effect or an MNE brand name

halo effect, and is supported by the results of the test on the branding hypothesis. An MNE brand might have been sufficient to result in a buyer preference for the imports over the UNE products, regardless of country-of-origin.

The sign of the branding coefficient was negative, meaning branded goods had lower import to locally-made price premiums, thereby supporting Hypothesis 2. The sign for purchase risk was positive, meaning riskier products had higher import to locally-made price premiums, thus supporting Hypothesis 3.

Conclusion of Data Set 2 Analysis

The combined results of Equations 8.1, 8.2 and 8.3 emphasize the importance of both firm specific and country-of-origin effects. Branding was not significant in the results of Equation 8.2 due to methodological reasons (e.g., the small sample of cases that had unbranded products, collinearity with the mode variable, or construct validity problems with the branding variable) or because unbranded, low-involvement products tended to reduce price premiums in the same manner as branded, high-involvement products.

However, most of the variation in the results of Equation 8.1, when the whole sample was used, was due to the the combined firm specific and country group-of-manufacture effect of

mainly branded imports having a high price premium over Philippine made UNE competitors. When firm specific effects were controlled for by comparing products of the same MNE in Equation 8.2, country group-of-manufacture or location specific effects were significant.

At the same time, mode was significant in Equation 8.2 as well. In fact, mode effect was a slightly stronger influence on price premiums than CGOM effects when imports were compared to locally made goods of the same MNE. These results support Dunning's eclectic paradigm by extending its implications to the marketing or demand side, and support Dunning's contention that firm, location and mode effects have to be considered *in toto*. These results also imply that mode may be a more important decision variable for MNE managers than production location. One of the primary competitive advantages of MNEs is to have consistent product quality among its different plants in different country locations. This critical factor suggests that more internalized modes are preferable in order to have more control over the production process.

The consistency of differences in price premiums between licensing versus the more internalized modes of operation such as wholly owned subsidiaries and joint ventures support internalization theory. Despite the possibility that buyers

did not intentionally differentiate *a priori* between products made through licensing and through more internalized modes, price differences were strongly evident. This can be interpreted to mean that quality is more consistent between products made through more highly internalized modes of production than through licensing, as we had hypothesized. Through experience with the products, the buyers can exhibit an observed preference for the products manufactured through more internalized modes without having to know the exact mode used by the MNE, which is a supply side issue for managers.[4]

Comparison of Data Set 1 and Data Set 2 Results

Finally, the results of several hypothesis tests of significance using different subsamples are summarized in Table 8.10 below to allow over-all interpretations. Note that mode effects are not included in the summary because they were not used as independent variables in Data Set 1.

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[4] Behaviour is observed by the researcher using prices as measures for behaviour. The use of prices as a measure of economic behaviour is well accepted in Economics.

Table 8.10

Summary of standardized beta coefficients of the three data subsamples

	Data Set 1[1]	Data Set 2[2] (MNE local production only)	Data Set 2[3] (UNE local production only)
H1a: MDC > NIC	.32***	.09***	not sig.
H1b: MDC > LDC	.67***	not sig.	.11**
H1c: NIC > LDC	.27***	not sig.	.11*
H2: Branding	-.17**	not sig.	-.13***
H3: Product Risk	.19***	.14***	.14**
Sample Size	52	222	97

[1] Only includes price ratios with different CGOM for numerator and denominator. [2] Only includes sample with MNE local production. [3] Only includes sample with UNE local products as the denominator. Note that the CGOM variable had an F=2.51, p <.10 level of significance in the test of this subsample.

*** significant to the <.01 level

** significant to the <.05 level

* significant to the <.10 level

Product risk (H3) was the only independent variable that was consistently significant across the subsamples. Branding was not significant only in the subsample of products with price ratios of an MNE import over a Philippine made product of the same MNE, due to either methodological reasons (as discussed earlier) or the effect of low involvement, unbranded products matching the effect of high involvement, branded products. The explanation that the branding variable was collinear with the mode variable is particularly possible because the test of Data Set 2 using local MNE products as the denominator (the middle column of Table 8.10.) was the only test on a subsample that simultaneously included the mode variable. The tests on Data Set 1, and the tests on the subsample of Data Set 2 that used UNE products as denominators, did not have a mode variable.

Country group-of-manufacture was highly significant in Data Set 1, and in the subsample of Data Set 2 with locally made MNE prices as the denominator (both were significant to the $p < .01$ level). In comparison, CGOM was only significant to the $p < .10$ level for the third subsample, when UNE products were used as the denominator. This result indicates that country-of-origin was being used as a further differentiating factor within the same brand or MNE manufacturer, but was not used as much when the MNE product was compared to a UNE product.

In addition, the difference between MDC and NIC country groups-of-manufacture was significant when the ratio was a smuggled import over a legal import but not when the ratios involved an imported product over a locally made UNE product. Earlier, it was suggested that import preference overshadowed the CGOM effect (i.e., buyers used CGOM when both products were imports, but when one product was an import and the other was not, they only made a distinction between import and non-import).

Country-of-brand (COB) is the country whose image is most closely associated with a particular brand (e.g., Levi's and Coca-Cola are American, Mitsubishi is Japanese, Mercedes Benz is German). COB was controlled for when imports were compared to imports. It is possible that country-of-brand (COB) effects played a role in the COGM results of the Data Set 2 subsample that used locally-made MNE products as the denominator. The price premium of MDC imports over locally-made products and the price premium of LDC imports over locally-made products may not have been significantly different because if both imports were branded with an MDC brand (e.g., a Sony VCR made in Japan and a Sony TV made in Malaysia), the buyers may have thought that both were equally better than Sony VCRs and Sony TVs made in the Philippines. A similar scenario could have happened with NIC imports and LDC imports with a NIC brand

(e.g., a Samsung VCR made in South Korea and a Samsung TV made in Thailand) compared to Samsung VCRs and TVs made in the Philippines. This explanation again involves an import preference assumption, but also implies some construct validity issues with the CGOM variable.[5]

Another explanation why there are variations in the significance of CGOM variables between the three subsamples, could arise from different product categories comprising the three subsamples. For example, most of the products in Data Set 1 could be relatively more technologically intensive products or products earlier in the international product life cycle (Vernon 1966, 1979, Wells 1972). These charactersitics might make these products more sensitive to CGOM effects because there a e more tangible differences between products produced in different countries when country capabilities are more critical, such as with these categories.

Over-all, it is not surprising that country group-of-manufacture effects were stronger in the results of Data Set 1 than in the results of the two subsamples of Data Set 2. This could be explained by differences in effect sizes due to

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[5] The implication can also be interpreted as an internal validity issue if COB is considered as a different construct from CGOM.

methodology. Data Set 1 analysis used the ratios of imports with different CGOMs (e.g., P^{MDC}/P^{NIC}) as the dependent variable). Data Set 2 analysis compared the ratios of imports from one COGM over a locally-made version to the ratios of imports from another COGM over a locally-made version (e.g., $P^{MDC/Local}$ versus $P^{NIC/Local}$), leading to smaller differences between dependent variables. A direct comparison was being made between different CGOMs in Data Set 1 (e.g., the price ratio of an MDC product over an NIC product). In Data Set 2, the comparison between different CGOMs was indirect, i.e., the relative ratios of MDC over locally-made to that of LDC over locally-made. There was a smaller variation between dependent variables in Data Set 2 for independent variables to have a significant effect on.

To summarize, the differences in findings between the three subsamples can be due to the following possibilities: (a) methodological reasons such as effect size differences between different subsample analyses because of the use of dependent variables that are not exactly identical; (b) subtle differences in buyer behaviour towards the three different subsamples (i.e., buyers do not compare imports to imports, in the same manner that they compare imports to locally-made goods, and also, buyers do not compare imports to locally-made goods of the same MNE, in the same manner that they compare

MNE imports to UNE goods); (c) confounding effects of country-of-brand; and (d) other independent variables not accounted for in the models, such as different compositions of product categories in the subsamples.[6]

Comparison of price premiums in Data Sets 1 and 2

Price premiums for LDC imports in the informal economy market over imports from the same MNE, from the same or another LDC country in the formal market, were negligible, as our analysis of Data Set 1 showed (See Table 5.1 in Chapter 5). Yet, our analysis of Data Set 2 showed that price ratios of LDC imports in the informal economy market over local, Philippine-made goods by the same MNE (that by definition have an LDC country group-of-manufacture since the Philippines is an LDC), showed price premiums averaging 72%. (See Table 8.2 in this Chapter.) This finding indicates a high preference for imports regardless of country group-of-manufacture. This finding might mean that the buyers in the market have an over-all preference for imports per se that might be additive to the country-of-origin effect alone. This could mean that the CGOM effects as measured here were slightly inflated because of a general preference for imports regardless of country-of-origin (an

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[6] The latter implies underspecified models, an explanation which is supported by the unexplained variance of the models.

import halo effect), although this behavior can also be interpreted as a general negative CGOM effect for locally made goods. On the other hand, the price premiums of MDC and NIC imports over LDC imports in Data Set 1 (69% and 29% respectively as shown in Table 5.1) were comparable to the price premiums of MDC and NIC imports over local, Philippine made goods in Data Set 2 (67% and 58% respectively as shown in Table 8.4), implying that if an import preference existed, it was a slight effect, and that most of the price differences were due to country group-of-manufacture effects.

In summary, the results of the statistical tests for both Data Set 1 and Data Set 2, show buyer preferences in a real market environment for products from more developed countries over products from lesser developed countries. These differences were not insignificant, since price premiums averaged from between 29% and 73%, even for products made by the same MNE. Yet branding did serve to moderate these price premiums somewhat, implying that buyers were convinced to some degree that the same manufacturer could lessen the differences caused by country-of-origin effects.

Limitations of the results

There are certain caveats to keep in mind regarding the results reported here. The data was gathered from an LDC

market and the buyers in that market might have certain product preferences (e.g., an above average liking for imported products), that are not generalizable to consumers in MDCs, NICs, or even other LDCs. In particular, the Philippines was a colony of Spain from 1521 to 1898, and a colony of the United States from 1898 to 1946. Since then, the United States has exercised a pervasive influence on Philippine culture. Thus the Filipino buyers might have had a 'colonial mentality', the belief that products from more developed countries were inherently preferable to locally-made products regardless of the evidence. Such a mentality could also have predisposed buyers to prefer an imported product or an MNE product, to project enhanced social status to their neighbours and themselves. Nonetheless, the general pattern of results is consistent with results found in previous country-of-origin research conducted in the U.S., Canada, Israel, Japan, Hong Kong, Mexico, Finland, Ireland and other countries. Therefore, the findings of this study extend the external validity of previous work. Furthermore, the Philippines is not the only country with this outlook.

A positive linear relationship between product quality and price was assumed. The marketing literature has shown that this is not always the case (Gerstner 1985, Tellis and Wernerfelt 1987, Curry and Riesz 1988, Rao and Bergen 1992).

Certain product characteristics, such as the intangibility of benefits provided by the product, the difficulty in assessing product quality, and low repurchase rates for the product, could lead to a weak relationship between product quality and price. In addition, low competitive intensity in the product category can also weaken the relationship between quality and price. However, since a wide range of products was tested in the sample, this limitation was somewhat mitigated.

The hypothesis that imported products were more preferred to wholly-owned subsidiary products (Refer back to Figure 6.2) assumes that the country capability of the host country is inferior to the capability of the home country. This assumption may hold for an LDC like the Philippines but would not if the host country, e.g., Japan, has high production capabilities. A JV partner in a host country like Japan might be able to add quality manufacturing skills to the partnership, as the Fuji-Xerox JV in Japan showed when it made copiers with higher quality than the copiers made by the parent Xerox company in the U.S. (Beamish, Killing, Lecraw & Crookell 1994).

The methodology of combining countries into groups might have masked important differences between country-of-origin effects of different countries in the same country stage of

development group. For example, previous research has shown that consumers make a distinction between made in the U.S. and made in Japan products (Darling and Wood 1990).

Country-of-brand (COB) was not controlled for when imports were compared to locally-made products produced by a UNE. Imports produced from an LDC might have an MDC country-of-brand (e.g., Sony radios made in Thailand). Therefore, it is not possible to determine whether the variable being tested is CGOM or COB (i.e., which information cue is the consumer using, country group-of-manufacture or country-of-brand?).

When prices of exports to the Philippine market were compared to prices of locally-made made goods in Data Set 2, only the mode of production of the locally produced goods was categorized and tested. This approach did not consider the different modes that an MNE could have used in the production of the exports (imported into the Philippines). An MNE could have used a third country as an export platform through WOS, JV or licensing. Therefore, only the effect of mode in the Philippine produced products was being tested, but not its effect in the products produced in other countries.

The construct validity of the data collected for this research can also be criticized. For example, the coding of whether a

product was branded or not was left to the subjective interpretation of the data collector. The use of several data collectors, or a more prescribed procedure for defining the branding variable, might have alleviated this problem.

The use of the magnitude of the purchase price as a proxy for risk is also a limitation since there are several types of product risk that price does not fully represent. For example, a $2.00 bottle of aspirin may have more product risk than a $150 pair of leather shoes. In addition, service warranties and product guarantees may reduce risk for locally-made or legally imported items. The smuggled items may not have been covered by these warranties thus confounding the results.

The lack of information on the kinds of products used in the data set is a limitation. It is unlikely that the magnitudes or even directions of the effects would hold equally for kitchen sinks, bathroom tiles, chewing gums, automobile tires, and sanitary napkins. The literature has shown that country-of-origin effect sizes vary according to product category (Han 1989, Papdopoulos and Heslop 1993, Liefeld 1993, Saimee 1994).

Product categories can also have implications on mode effects. The technological intensity and the stage in the international product life cycle (Vernon 1966, 1979, Wells 1972) of a

product can affect the relationship between mode and product quality. A technologically simpler and more mature product can be produced more easily under less internalized modes than more technologically complex and less mature products.

The use of market price in a black market research site as a measure of COE has its advantages but also has its drawbacks. The effect might be overstated because of scarcity. For instance, if buyers value a foreign product but that product is normally unavailable in the regular market, they would bid up the price of the scarce products in the black market. This means that the desirability of the product is still due to country-of-origin effects but that price as a measure incorporates both country-of-origin effects and scarcity effects. On the other hand, the price premiums observed in the black market could also be understated. Buyers might be more wary of shopping in a black market because of the possibility of buying counterfeit products, or because of a lack of trust with the seller. Therefore, buyers could factor in a penalty to cover possible losses, by lowering their acceptable price.

The magnitudes of the price premiums and the significance of country group-of-manufacture and mode effects can indicate to managers that demand side factors and potential revenues should be important considerations in internationalization

decisions. However, hard data is not available on the size of the market segment that is willing to pay the observed price premiums. It would be unwarranted to conclude from the statistical results alone that managers are better off importing from more developed countries rather than producing from lesser developed countries. This research study does suggest which factors may be important.

For example, suppose Procter & Gamble (P&G) sells locally-made Ivory Soap in the Philippines for $1.00. Suppose further that the results indicated that U.S.-made Ivory Soap is being purchased in the informal economy for $1.60. It would be premature to give advice to P&G managers to stop Ivory Soap production in the Philippines and start exporting Ivory Soap from the U.S. to the Philippine market. Its cost of production might be lower in the Philippines and transportation and tariff costs have to be factored in. In addition, Ivory Soap's market share in the total Philippine market might drop since a significant portion of its customers might prefer to continue paying $1.00 for soap made by other manufacturers. What P&G could do is import U.S. made Ivory Soap as a de luxe version and sell it for a price premium, alongside the less expensive locally-made version, as a premium addition to the line (or use a different product name altogether). Over-all, both demand and supply sides are important.

Chapter Nine

Qualitative Managerial Issues

To complement the findings from the quantitative analysis of the large-scale data base, qualitative data on country-of-origin and mode issues were gathered from a small sample of managers from MNEs and UNEs in the Philippines. These qualitiative data were not intended to test hypotheses and provide definitive conclusions but rather were intended to provide managerial insights on the conclusions and interpretations drawn from the results of the statistical analysis reported in the earlier Chapters.

Open-ended interviews of one hour duration were conducted with managers from eight multinational companies and one uninational company in the consumer packaged products and packaged foods industries in the Philippines. One manager served as the respondent for each company. All nine companies imported some raw and intermediate materials and manufactured and sold finished products in the domestic market. Some of the companies also exported intermediate or finished products. Six of the MNEs had American parents, one of the MNEs was European-based and one was a Philippine MNE. By definition, the UNE was a Filipino company. The European company was a joint venture operation, whereas the other MNEs were wholly-

owned subsidiaries.

Five of the respondents were country managers (i.e., the highest placed operating general manager), one was the senior vice-president of marketing (and a member of the joint venture's board), and three were product managers. Three of the senior executives were Filipinos (two with extensive Indonesian experience). Three of the senior executives were expatriates, an American, an Indian and a Briton. The expatriates had substantial previous international postings, including North America, Europe, Asia and Africa. The three product managers were Filipinos.

Parallel Imports

All of the managers of the foreign MNEs verified the existence of "parallel imports". Parallel imports are products manufactured in other countries, often by the foreign parent, that are similar or identical to the products manufactured locally. These are imported by traders independent of the MNE's international operations. The independent traders often sourced these products from the wholesale trade in the local markets of the countries of the parent or other subsidiaries abroad. The products are then imported by the traders via "technical smuggling", the under declaration of a shipping container's value of goods. These shipments are subsequently

sold to regular retailers and distributors such as supermarket chains in the Philippines.[1]

Technical smuggling enables a trader to reap high profit margins from country-of-origin and mode effects. It can sell products at a price premium because of favorable consumer perceptions of country-of-origin and possibly higher quality from the export mode, while incurring lower costs due to tariff evasion.[2] In comparison, the multinational following the letter of the law cannot respond by importing the same finished products and taking advantage of country-of-origin and mode effects because of high tariff barriers. The MNE cannot engage in technical smuggling because of the risk of legal problems, and the MNEs' higher need for legitimacy given its visibility and the need to protect its worldwide and local business reputation. Therefore, it has to pay high tariff duties if it wants to import finished products, thus negating the possibility of high profits due to price premiums. Mainly

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[1] The thesis researcher observed the shelves of two Philippine supermarkets, one, an upscale store, and the other, a middle class outlet. Parallel imports of products such as disposable diapers and packaged chocolate drinks existed on the shelves. Although not scientific data, the observation somewhat validates the managers' comments.

[2] Assuming that the products are imported from the parent company's home country production operations, the export mode could lead to higher quality as discussed in Chapter 6 and shown graphically in Figure 6.2.

because of the high tariffs, the multinationals in the interview sample seldom imported finished products.[3]

Country-of-Origin Price Preferences

One of the managers, whose products were priced at the high end in their product categories, was of the opinion that parallel import traders, mainly overseas Chinese in ethnic origin, expected small margins. He suggested that the parallel importers were not marketing oriented, but rather were more focused on making rapid inventory turns.[4] He did not think that the parallel imports of his brands were premium priced relative to the locally-made versions.

In contrast, the other managers interviewed were of the opinion that the parallel imports were premium priced, from 50 to 100% more than the locally manufactured version. The managers thought that there was a segment of consumers that

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[3] Legal importation of finished goods was done by one of the MNEs on a temporary basis while products from the parent were being test marketed for demand in the local market. When the test market proved to be successful, local production would start up and importation of the finished products would be stopped.

[4] Overseas Chinese traders in Southeast Asia generally have the reputation of competing through high volume and rapid inventory turnover, thus leveraging a limited capital base. This strategy is, therefore, limited to low cost, low priced, mass market goods, and is not suitable for highly differentiated, niche-marketed products.

was willing to pay a premium for products made in the U.S. or Japan. However, they were of the opinion that this market segment consisted of high income buyers forming a small minority of the market (i.e., between 5% and 10%). One of the managers thought that the segment that preferred U.S. products consisted mainly of Filipinos with ties, residences or former residences in the U.S.[5] However, it should be noted that the price premium data analysis conducted in previous Chapters not only reflected a preference for U.S. or Japanese (i.e., MDC) goods but for NIC country group-of-manufacture, as well.

One of the managers commented that the brand name of the MNE served as the assurance of quality, wherever the product's country-of-manufacture happened to be. All the managers, however, said, that in general, consumers still thought of any product made in the U.S. or in Japan as a high quality item. One manager said that he thought local consumers perceived products from certain LDCs such as China and India to be of lower quality.

Some of the MNE managers said that their products were specially formulated for the requirements of the local market.

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[5] The Philippines has had a colonial or quasi-colonial relationship with the United States in its history. Immigrant Filipinos, both legal and illegal, form the largest group of people with Asian ethnic origin in the United States.

A manager for a hair care manufacturer said product adaptation was based on the physiological characteristics of Asian consumers, the type of water available and the local bathing habits of the consumers. A manager for a food manufacturer said they adapted to the taste preferences of the local market for more sweetness or saltiness. These managers suggested that the parallel imports of their products were therefore less suitable for local use. Again, the price premium data analysis conducted earlier suggests that consumers may not value local product adaptation as much as the managers think.

On the other hand, another multinational manager said that his company's products were not adapted for specific markets, but were changed only to the extent that the available raw materials were different. For instance, he mentioned that the parent company imported raw materials from world-wide sources, but the Philippine operation had to use local raw materials due to tariff barriers. This response implied that certain quality compromises could have been made in raw material or component inputs for locally-made products because of trade barriers.

The respondent managers unanimously agreed that parallel imports helped the brand image of the MNE in the local market. The availability of parallel imports supported the

"multinationality", "internationalness", or "Americanness" of the local subsidiary's brands. Therefore, the managers did not feel a need to do anything about the parallel imports, since they considered the volumes to be small, and the general effect on regular operations to be beneficial.[6]

In addition, the managers said that imports of products (whether technically smuggled or legally imported), not officially available in the Philippines from the subsidiary, but being sold by the parent in other markets, were being sold on the local supermarket shelves (e.g., American prune juice).[7] These imports were felt to be helpful to the brand image of the local products as well, creating a beneficial halo effect.

Counterfeit copies of his company's products, from local sources, or NIC or LDC sources abroad, however, were a concern for one of the MNE managers. In addition to foregone revenues, the poorer product quality of the copies hurt the market reputation of the legitimate versions. This manager's response

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[6] Note that managers based their opinions on their managerial feel of the situation, not on formal market research.

[7] These products are not parallel imports because they do not have locally-produced versions. Parallel imports apply to products which are being produced locally as well.

underscores the importance of internalizing or protecting the firm specific advantages of an MNE, including its brand equity or the favorable perception of the consumer to the company's brand name and its products' country-of-origin.

In summary, the responses of the managers interviewed supported the findings of the statistical analysis. For their products, there were country of origin effects that led to price premiums for imports from high income countries.

Mode Effects

All the managers interviewed responded that their company had a policy of not licensing outwards. They agreed that their companies felt that use of the WOS or JV mode helped the MNE to use or internalize its firm specific competitive advantages, enabled the diffusion of product innovation and allowed it to maintain consistent product quality.

On the other hand, the locally-based multinational licensed brands and product technology inwards from foreign multinationals. However, this local multinational is quite advanced and sophisticated in its management practices and technology. Its manager expressed confidence that they would have no trouble producing to their foreign licensor's exact formulation, and said that their locally developed formulation was equivalent to the foreign licensor's, but that licensing

was used to develop a wider product line to complement their own locally-developed brands. One of the country managers commented that licensors can insist on quality equivalent to that obtained in a WOS by being very strict with their licensees, and by installing management systems to monitor the licensees. However, it should be noted that the price premium data analysis conducted earlier showed that buyers clearly preferred WOS and JV made products to licensed products.

Some of the managers in wholly owned subsidiaries expressed the opinion that their mode of operation was preferable to joint ventures. They felt that the existence of partners created potential management conflicts. In fact, one of the managers of a wholly owned subsidiary said that he liked competing with joint ventures because JV competitors were less responsive to the market. The WOS managers said that their companies generally avoided joint ventures unless government regulations required a local partner.

On the other hand, the manager in the joint venture thought that there was no difference in the effectiveness of joint ventures to wholly owned subsidiaries, if one of the JV partners actively managed the operations of the company, and the other partner was less active. He thought that in general, JVs of multinationals in the Philippines were managed quite

effectively, because the local management culture was highly compatible with the management style of western multinationals. He did mention that his parent company has had problems managing joint ventures in other countries in Asia when conflicts over culture or control with local partners occured.

Degrees of parent control over subsidiaries also varied. More than one country manager stated that the independence of subsidiaries from parent company involvement was based on results. As long as the local subsidiary met or exceeded performance targets, they maintained a great measure of independence from headquarters involvement. On the other hand, some country managers felt that the existence of matrix or matrix-like lines of responsibility, with regional product managers, created the need to resolve certain management decisions that did not necessarily maximize the results of their own local operations. However, they emphasized that the organizational capability of individual host country operations was important in gaining resources from the parent, as well as attracting the best human resources from the local market.

Interviews with the managers indicated that the development of human resources (i.e., selection, on-the-job and formal

training, country rotation for the best staff), and the exchange of information and knowledge within the company, were the primary determinants of organizational capability. This is consistent with the literature on MNEs (Bartlett and Ghoshal 1989). The management of joint ventures depended on developing a long-term relationship with partners and with the clear acceptance of the differentiation of roles of particular partners in the venture. This is consistent with the literature on joint ventures (Killing 1983, Beamish 1988, Beamish and Banks 1987).

The organizational capability of a foreign subsidiary or JV in a host country also depended on the host country. Factors such as the managerial sophistication of the host country, the compatability of its managerial culture with the MNE's culture, the level and nature of competition and rivalry in the local market, and the skills of the labor force, are factors in the role that a host country's capabilities play in the organizational capability of an MNE's operation in that country. The more effective the management of an MNE's international operations including the development of organizational capabilities in host subsidiaries, the better was its chances of duplicating product quality among its units.

In summary, the responses of the managers interviewed supported the statistical findings. There was a general consensus that WOS were more effective than JVs which in turn were more effective than licensors.

Product Quality

All the respondents said that the local operation had to adhere to the worldwide product quality standards of the parent and that these standards were being met. They pointed out that since their products were internationally branded, product quality had to be consistent in different country production sites. However, they also noted that product adaptation to local markets meant that some of these standards could not be applied identically. Consequently, the quality measures have to be adapted as well, though the "quality templates" were identical. The managers also commented that although local plants would be expected to produce products within an acceptable quality standard range, local plants were typically within the lower area in the range of product quality measures, while U.S. plants were typically expected to be within the higher area of the range.

Some of the managers were convinced that the products of multinationals were of higher quality or of more consistent quality in general than the products of their uninational or

non-multinational local competitors. They thought that this was because of the multinationals' management practices, and because the local uninational competition often focused more on minimizing cost and on low price than on quality and differentiation. (Informal conversations by the researcher with product managers in other Philippine uninational companies (not in the sample), indicated that these UNE managers agreed with the MNE managers.) One of the MNE expatriates was of the opinion that Asian companies in general (not including Japan), were close to or at parity with the management practices of western multinationals. He did state, however, that leading edge management practices such as Total Quality Managment tended to be adopted by MNEs more quickly than by UNEs.

In the previous Chapters' statistical analysis, the highest price premiums were reflected in the results of analyses of Data Set 2, that indicated price premiums of around 100% for imported MNE goods regardless of country group-of-manufacture over products locally made by non-multinationals or UNEs. These statistical results are consistent with the contention by the MNE managers during the interviews that the quality of MNE products was generally superior to the local, non-MNE products. The managers also said that even though they were competitive to non-MNE producers in quality, they were also

competitive in cost and in price. The simultaneous combination of higher quality and lower price has been supported by the marketing (See Phillips, Chang and Buzzell, 1983) and operations literature (See Crosby, 1979).[8] This advantage by MNEs over UNEs has long been observed in the international business literature (Hymer 1960).

Managers felt that the application of consistent product quality standards across different country units enabled the different operating units to trade finished products among themselves when needed, without having to be concerned over quality differentials among plants. ASEAN[9] or Asian country units of the MNEs sometimes engaged in intra-firm trade of finished products to cover temporary production shortfalls or operating plant problems in any of the regional subsidiaries.

Tariff Barriers

The high tariff barriers, however, hampered continuous intra-

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[8] Traditional mass production manufacturing principles has for years suggested a trade-off between higher quality and lower cost (and lower price). The Japanese, however, showed with lean manufacturing, continuous improvement and total quality management, that higher quality and lower cost were compatible.

[9] ASEAN stands for the Association of Southeast Asian nations, a regional grouping of countries formed by Brunei, Indonesia, Malaysia, the Philippines, Thailand, and Singapore to foster political and economic cooperation.

MNE trade. One of the issues that the managers unanimously agreed on was that the high tariffs on their products affected their sourcing decisions. Tariffs for both raw materials and finished products reportedly ranged from 10 to 50%. Furthermore, the Philippine government used a system for the calculation of tariff duties on imports called 'home consumption value' (HCV). Using HCV, import duties are calculated based on the average retail selling price of the imported product in its home market not on the CIF (cost, freight, insurance) landed price of the import to the local wholesale trade as is done in other countries. HCV results in higher tariff valuations and hence higher effective tariffs.[10]

Conversely, the instance of reduction of tariffs has led to greater regional intra-firm trade. For example, one of the multinationals in the study was able to achieve a 90% tariff reduction under the ASEAN International Joint Venture Agreement. Under this scheme of incentives, this packaged food processing company created a regional strategy of supplying a specific product line for the entire ASEAN region from a specific ASEAN member country. For example, breakfast cereals

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[10] The Philippines was not an offical member of GATT at the time of the research. Reportedly, the use of HCV will have to be discountinued when the Philippines joins GATT, as it was planning to do at the time of the research.

from the Philippines, chocolate from Malaysia, coffee creamer from Thailand, and soya products from Indonesia were regionally sourced for the entire ASEAN market. Several managers speculated that the tariff rates of ASEAN countries were likely to decrease in the future because of trends towards liberalized trade. They were quite sure that intra-firm trade among the Asian units of their company would increase in the future if tariff barriers are brought down.

High tariff barriers also led to stand alone subsidiaries, self-sufficient in manufacturing regardless of the local market size and scale economies (and product quality). In contrast, low tariff countries such as Hong Kong and Singapore were not used by some of the multinationals as production sources. Instead, these MNEs exported to their Hong Kong and Singapore subsidiaries from plants in the high tariff ASEAN countries as well as from their home countries.

The general implication is that high tariffs create a distortion in the marketplace to the detriment of consumers. Trade barriers prevent the multinationals from implementing the most effective global and regional product sourcing strategies which could utilize the comparative advantages of individual countries.

Product Sourcing Decisions

According to the managers interviewed, decisions on whether to produce locally in the host country or source from other subsidiaries were generally made based on several factors, the most prominent being: (1) tariff barriers, (2) local cost competitiveness, (3) the expected size of the local market relative to the investment required, and (4) the organizational capability of the local operation.[11] The organizational capability of the host country subsidiary determined if international product quality standards could be met adequately. One manager also mentioned that the sophistication of demand from local consumers encouraged production in that country, in order to be closer to leading edge market demands, the Japanese consumers being a prime example. Another manager also mentioned transportation distance and the shelf life of their products as a determinant of sourcing decisions.

It can be inferred from these responses that the MNE managers based sourcing or location decisions on both cost and possible reverues. Tariffs and production costs were the primary factors for determining production location in high tariff

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[11] These managers were specifically refering to the Asian region. They reported that Asian countries in general had higher tariffs than countries in other regions, with the notable exceptions of Hong Kong and Singapore.

countries. The size of the market and the organizational capability of the MNE also has cost implications, since a larger market could mean economies of scale, and a better organization could mean better cost control. The size of the market and organizational capability are, however, primarily revenue side determinants. A larger market means more unit sales. Better organizational capability means more effective marketing, and better control over product quality in the production process, to enable the maximization of revenues. It means that the MNE can better compete in the host market through the simultaneous use of low cost-low pricing and product differentiation strategies, (including differentiation through higher quality).

Local Market Competition

Competition in the local Philippine market was often driven by the introduction of new products, derived from new product introductions in higher income country markets. For example, Filipinos from the U.S. would ask for product features available in the U.S. but not yet available in the Philippines. One of the country managers, who had experience in higher income countries, commented that the multinational competitors that they faced in the local market were the subsidiaries or joint ventures of their global competition. He suggested that the intra-industry rivalry in the Philippine

market for their product lines was very sophisticated and advanced due to inter-MNE competition. Thus, competition was based simultaneously on product quality, features and price.

Most of the managers commented that the local market, as well as Asian markets in general, were very value conscious. Some of the managers also said that with the rising incomes in Asia, there was an increasingly wealthy market segment that was willing to pay a premium for higher quality. This observation implies that the MNEs would prefer to compete, if they had the flexibility, by serving both value conscious and premium customers through the use of the most effective country-of-origin (product sourcing by location) and mode decisions.[12]

Summary and Conclusions

The MNE managers agreed that country-of-origin effects existed. In fact, they thought that parallel importation of products made by their company from highly regarded countries, had a beneficial effect on their brand image in the local

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[12] Porter (1980) suggested that a company has to make a choice between cost based and differentiation based product market strategies. It can be argued, however, that a diversified multi-product line MNE has the capability to service both value driven and quality driven customers. For example, Toyota sells both Corolla economy cars and Lexus luxury models, and Citibank serves both average retail banking customers and high-end, private banking accounts.

market. The magnitudes of price premiums that were observed in the statistical analysis were generally consistent with the price premiums that the managers thought existed in the wider marketplace (as evidenced by parallel imports sold in regular supermarket and department store chains). However, they thought that the potential demand for premium priced products in the total marketplace of the country was quite small, speculation ranging from less than 5 to 10% of the market.

At the same time, the MNE managers were also insistent about the consistency of quality among the different plants of their company producing in different country locations. They mentioned internal corporate quality measures as evidence. However, it should be noted that research in the marketing literature (See Zeithaml 1988), has pointed out that internal corporate measures of quality are not always congruent with customer defined perceptions of quality. As well, although the Philippine subsidiaries met the corporate quality standard, thy were usually at the low end of the acceptable quality range.

It was evident that the MNE managers thought that their companies would be engaging in more intra-company trade, based on regional product sourcing strategies, if tariff barriers were lowered. This strategy could mean further confidence in

the ability of their plants in different locations to manufacture within the acceptable quality standard range. Regional product strategies could also imply the opposite, that managers will prefer to source products from countries that have a comparative advantage in quality manufacturing.

The managers' responses were consistent with both the empirical results of the statistical tests on mode effects and the theoretical literature. The managers repeatedly emphasized the importance of the MNE's ability to internalize its firm specific advantages by operating through wholly-owned subsidiaries, or by managing joint ventures well. Revenue factors were indeed factored into mode decisions because they thought that WOS and well managed JVs are potentially better in maximizing revenue opportunities, which includes the management of product quality. It can be inferred that mode choice was a variable that managers believed could compensate for country-of-origin effects. They felt that the right choice of mode could potentially reduce the disadvantage of producing in a low country image production location, by providing the context for the multinational to apply quality management practices.

Finally, to conclude this Chapter, summary comparisons between the qualitative data and statistical results are presented.

The managers most strongly agreed with Hypothesis 4 and Hypothesis 5. They agreed on the importance of mode effects (H4), confirming the advantages of more internalized modes of production and the advantages of MNEs over UNEs (H5), consistent with the statistical results. They implicitly agreed with the statistical results of branding effects (H2) by strongly voicing the opinion that branding served as an assurance of quality, thereby decreasing price premiums due to COE. They had not thought about purchase risk effects (H3), though they thought that the idea made sense when the issue was raised. The issue of the general country-of-origin preference for products produced in more developed countries (H1), provided the most contrast with the statistical results. The managers agreed that COE existed, but they believed that only a small segment of the total national market exhibited this behavior and was willing to pay premium prices. They suggested that the product quality of their local WOS or JV operations was comparable to the plants of their company in higher income countries, albeit at the lower end of the quality standard range. They admitted, however, that there was still a consumer preference for MDC products and a negative perception of LDC products in general. They implied that quality differences were more a matter of consumer misperception than of tangible reality, and, in any case, only a small portion of consumers would be willing to pay high

price premiums for higher perceived quality.[13]

This conclusion of these managers concerning the size of the market segment for imported products raises the issue of the generality of the results of the thesis. One of the contributions of the thesis is that its findings are based on real prices, paid in a real market, by actual consumers. Howvere, if the size of the segment from which the price data were gathered is small, then the conclusions are limited only to that segment.

The issue of segment size and characteristics has been addressed in a number of ways in the previous chapters:

1. The size of the smugglers market was over two acres, by far the largest market in Dau and neighboring Angeles City (a city of population of about 250,000). This feature of the market would seem to indicate that the segment being served was indeed quite large, and may well be the total population.

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[13] The research design of this study does not test whether the consumer preferences were due to perceived quality differences or to real, tangible quality differences between products of different CGOM. Since the smugglers' market has been in existence for a long time and parallel imports are reportedly widespread, it could be argued that CGOM price premiums were more due to product experience (as also supported by the results of the mode variable) rather than misperception. This argument contradicts the managers.

2. There were hundreds of shops/stalls in this market and these had had a large number of "suppliers" who had access to the storerooms of the PX. Between the suppliers and the stall owners, the marginal cost of the goods was very low. These goods must have been taken from the PX complex since for some of the goods, the price in the smugglers market was below the PX price. Given this situation, if the smuggled products were being sold at high prices (via price discrimination or skimming) to a limited segment of the market, the vendors/suppliers would have had to exercise a remarkable degree of price coordination and discipline.

3. As part of the research, the demographics (age, income level, value of the house in which they were living or monthly rental, car ownership) of a sample of the shoppers in the smugglers' market and in the other public market (in which the price data for the Philippine-produced products were gathered) were compared. No significant differences were found. This finding suggest that the two markets were serving the same segment.

4. The prices in the smugglers' market in Dau were compared to those of for smuggled products in Zamboanga (some six hundred miles away). No significant differences were found. This finding lends support to the assumption that the buyers in

Dau, despite their close proximity to the American air base, had similar consumer preferences to those in the Philippines as a whole.

5. Finally, in the three by three matrix used to compare the prices for the legally imported products with the smuggled ones, there was no statistically significant difference between the price ratios of the cells above the diagonal and the reciprocal of the price ratio in the comparable cell in the below diagonal cells, e.g., the price ratio of a legal LDC import to a smuggled MDC import was the reciprocal of the price ratio of a smuggled LDC import to a legal MDc import. If the vendors in the smugglers market were price skimming or serving a different market segment, these ratios would have been different unless all the vendors in both markets were following exactly the same pricing strategies.

Although these five points do not rule out the possibility that the data in the thesis came from a limited segment of the market, collectively they would seem to indicate that this segment was substantially larger than the size estimated by the managers who were interviewed (and quite possibly represented the average consumer). The managerial implications of this conclusion will be discussed in the next chapter.

Chapter Ten

Summary and Conclusions

The statistical results from both data sets provide a strong support for the existence of country group of manufacture effects in a real world market environment. Prices, the proxy for the value buyers placed on products, exhibited statistically significant differences when the country-of-manufacture for a product was of a higher stage of economic development ccompared to a lesser developed country ($P^{MDC} > P^{NIC} > P^{LDC}$). This effect existed even though firm specific advantages were controlled for by comparing products made by the same MNE. The effect was strongest when imports from one CGOM were compared to imports from another CGOM. The effect was relatively weaker when imports were compared to locally made items since import preferences *per se* mmay have tended to overshadow the CGOM effects. Branding tended to reduce CGOM effects, since branding could provide firm specific information about potential product quality and performance in addition to or in place of country-of-manufacture. Product risk tended to magnify CGOM effects since it could accentuate the importance of country-of-manufacture information in reducing the risk of product failure. Mode effects significantly affected price premiums as buyers showed a preference for more internalized modes of production.

Managerial Implications

In the era of global, or at least regional, product sourcing and branding by MNEs, where do country-of-origin effects fit into the strategy of MNEs? This study shows that COE effects exist and may be of substantial magnitude in some circumstances. In making sourcing decisions, MNE managers would do well to identify, study and try to quantify the COE of various alternative production/sourcing locations.

This exercise may not be an easy one, since data such as those used in this thesis typically will not be available. As noted in the literature review, in two cases MNEs have commissioned studies to obtain indications of the premiums and discounts that consumers would place on their products depending on production location. Given the results of this thesis, it would seem that managers of MNEs might well be advised to carry out similar studies for their own products: the price differentials for different production locations would seem to be significant and large.

Tariff barriers by countries provide an incentive for smugglers in the black market or technical smugglers in the gray market to circumvent tariff regulations in order to provide goods for which there is a market demand differentiated based on COGM. Tariff barriers may hamper MNEs

in meeting this demand in a cost effective way. High tariff barriers could result in the development of protected industries and companies that produce to lower quality standards, that are priced lower in the marketplace or shunned by quality-oriented customer segments. Protectionism could also adversely affect the development of supplier and related industry networks and more demanding consumers (Porter 1990). Even after tariffs are lowered, there could be a time lag before buyers are convinced that there is an improvement in quality for locally produced goods. It can be argued that tariff barriers prolong the existence of COE biases by perpetuating in consumers the perception that locally-made products are inferior, a perception which may have been justifiably developed by past and current trade protectionism.

The existence of high tariff barriers in the Philippines and most other developing Asian countries could be masking the real extent of the market preference (or size of the market segment) that would be willing to pay more for higher quality.[14] Given more open markets, MNEs would be able to trade raw materials, intermediate goods and final products

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[14] A recent *Economist* (July 16-22, 1994) observed, "The (World) Bank says that East Asia would benefit hugely from further slashing of its own trade barriers. It reckons that the level of protection of manufacturing industries in several East Asian countries is equivalent to tariffs of about 40%, well above the levels of most developed countries (p. 68)."

intra-firm or inter-firm, and utilize regional or global product strategies. Under conditions of open competition, an MNE can use country-of-origin and mode effects to provide the highest quality and lowest cost products to customers by being able to source from the countries that offer the best combination of cost and quality (e.g., low cost and high quality) and utilize the best mode for the market.

Mode choice is a critical managerial choice variable because it provides the long-term framework for the effectiveness of an MNE's international operations. The statistical results of our price analysis provide plausible evidence that mode alternatives resulted in product preferences for goods made through the more internalized modes of production. This effect was markedly strong, if one considers that the consumers did not have prior knowledge of the type of mode that was used by the MNE. Therefore, the price preferences must have been derived through the buyers experiencing superior product quality over time for products produced by WOS and JV compared to licensees.

The statistical findings and the interviews with the managers highlighted the importance of perceptions on consumer behaviour. Country-of-origin as a construct is based on country image (Eickson et al. 1985, Han 1989). The managers

thought that parallel imports benefited the brand image of their products. These findings have implications on mode choice because it can be argued that WOS and JVs have an advantage over the use of licensing, in having an organization in place to implement marketing tactics, using advertising, packaging, promotions, distribution and pricing, to enhance brand or product image and perceived product quality. If a company decides to use the export mode, the findings also imply that the existence of company owned sales affiliates is more advantageous than exporting directly to agents, because internalizing the marketing functions can enable more effective image enhancement. As well, WOS and JVs reduce the CGOM effects of imports.

Managers of uninational enterprises in lesser developed countries face difficult challenges in responding to MNE competitors, especially as trade barriers are lowered. Consumers in both higher income and lower income countries may have a strong preference for both MNE made and for imported products from MDCs and the NICs. MNEs have financial, organizational and knowledge capabilities difficult for UNEs to match. UNEs will have to focus on developing their capabilities, including the use of inward licensing and learning from joint ventures, implying the need for internationalization.

As one example of how this process has been accomplished, Great Giant Pineapple (GGP) in Indonesia started production using technology and management from Taiwan. It initially entered the export market, it had to sell at a 15% discount below the Thai cannery with the worst reputation for quality due to Indonesia's reputation for (low) quality. Four years later, its products were selling at a par or slightly above with the prices of the best Thai cannery (and the Taiwanese production managers had returned home). At present GGP has almost a 20% share of the total world canned pineapple market. GGP accomplished this feat through an objective of "100% right, 100% of the time." To achieve this objective it consciously over-delivered on quality (i.e., unless it was 100% sure that its product was of Grade B, it sold it as Grade C at a considerable discount). The short run revenue and profit implications of this strategy are obvious: GGP incurred massive losses in the first years of operations in order to establish its quality image and market share.

For producers, such as MNEs based in NICs and LDCs, and UNEs, exporting from NICs or LDCs into MDC, NIC or LDC markets, ways to moderate negative country-of-origin effects in the short term may include the following: the use of retailers with favorable reputations (i.e., through private label branding and/or the guarantee of quality implied by the retailer), the

use of product guarantees and service warranties, "Good Housekeeping" seals of approval from government agencies and consumer bodies, trial promotions of products, penetration pricing and discounts, the use of attractive packaging and industrial design, deemphasis of 'made in' labels and other origin cues, information campaigns and advertising emphasizing other attributes, and the licensing and use of favorable brand names (Todino 1994).

In the medium term, these producers can move final assembly or packaging to a country with high positive COE, as some ASEAN companies have done into Europe and the U.S. (Lecraw and Todino 1994). However, in the long-term, these producers will have to manage technology transfer, develop brand equity and adopt advanced management practices such as total quality management, including the use of best practices, benchmarking, customer orientation, employee involvement, quality circles, statistical process control, continuous improvement and business process reengineering. Governments in LDCs will need to provide the factor conditions, institutional structure and property rights framework to help their producers attain international competitiveness. In addition to these initiatives to improve quality, governments might well consider the case of Japan where government-imposed quality control standards for exports led to a turnaround in Japan's

country image.

Academic Implications

Global and regional product strategies by MNEs have complicated the study of COE. MNEs with parents based in one country, design products in one country, source components from second and third countries, assemble these components in a fourth, and sell the finished products in a fifth country. A distinction needs to be made in future research designs between country-of-brand (COB) and country-of-manufacture (COM). Since this kind of distinction was not made in this research study, the interpretation of results was more difficult (e.g., when comparing LDC CGOM products, which may have had MDC COBs, to MDC CGOM products). Further distinctions can be made between country-of-design (COD), country-of-component source(COC), and country-of-assembly (COA) in future research (Chao 1993, Tse and Lee 1993). Country-of-retailer (COR) is a distinction that has not yet been used in the research literature, yet there is anecdotal evidence that this could be important, e.g., Wal-mart in Mexico being preferred by consumers partly because of COR.

The COE literature has noted the existence of ethnocentric behaviors which result in preferences for locally-made goods against imported products (Bilkey and Nes 1982). This research

study showed that the opposite effect can occur. Buyers can have a preference for imported products against locally-made items. There have not been many COE studies conducted in NICs and LDCs, yet there are many countries with colonial histories that might show a strong import preference.

Due to the strong import preferences in the findings, this study made a distinction between the import halo effect and the country (group) halo effect. Future studies should take this distinction into account in th research designs.

This research study emphasized the point made earlier by Bilkey and Nes (1982) that COE behavior may vary considerably between different countries and among different types of consumers. The statistical findings of this dissertation study may be magnified in the Philippines (given its colonial history). It can be argued that the effect sizes may vary between country markets, but the tendencies will be similar. For example, the popular press has also reported that Mexican consumers have a preference for U.S. made products, a fact that has become even more salient with NAFTA. This study also emphasized that the propensity to use COE or CGOM as a factor in purchase decisions may vary depending on the market segments. COE researchers need to be more explicit and careful about the generalizability of their findings, and need to take

market segmentation into consideration.

This research study suggests that locally adapted products and regionally standardized products may be serving different market segments. This possibility needs to be further investigated by international marketing researchers. This study also showed that tariff barriers still play a role in hampering product standardization and regional sourcing in certain regions of the world. International marketing researchers should include the role of government policies in the debate between adaptation and standardization.

The usefulness of using a multi-method research strategy was shown by this research. Most previous COE research had used quantitative analysis of consumer-based measures. Most mode research had emphasized the supply side, or the managerial issues. Combining the two approaches and using other multi-method approaches can lead to richer understanding of both COE and mode issues, and result in more interesting and comprehensive IB research.

Previous COE research has not considered mode effects. Previous mode research has not considered country-of-origin effects. The two groups of researchers need to consider organizational (e.g., mode) and marketing (e.g., COE)

variables, respectively, because the two issues: production location and operational mode, are inseparable. This study showed that both factors can have simultaneous effects on product prices, and MNE managers indicated that both are factors in their decision making. Managers consider mode choice as a variable that can compensate for unfavorable production location.

Comprehensive theoretical frameworks such as Dunning's eclectic paradigm have provided useful ways of understanding the underlying factors that may drive economic managerial decisions over time. Yet, the buyer or the consumer may be the forgotten person in this equation. This research study showed that Dunning's eclectic paradigm, as well as internalization theory, can also be applied to investigate the buyer or demand side of IB and MNE issues. The buyer and demand side needs to be taken into account more often in future IB research.

IB and MNE related theories in general, use rational economic actors as a key assumption. Yet this study suggested, through both the statistical analysis and managerial interviews, that perception or misperception play key roles in decision making, whether from the managerial side or the buyer side. IB and MNE research needs to incorporate nonrational human behavior more fully in future research.

Suggestions for Future Research

Further research could be conducted to improve on this research by overcoming its limitations. For instance, even though this study showed that buyers are willing to pay price premiums for country-of-origin effects, it could not show the size of the market segment that followed this behavior. This limits the possible recommendations to multinational managers based on this research. Further research could be conducted by researchers using other methodologies to assess the size of this market segment not only in the Philippines but in other countries as well. Demographic data could be collected and correlated with price purchase information in post-purchase intercept interviews. Later, large scale surveys, as well as analysis of demographic census data, could be conducted to assess the size of this segment.

Since this research used a black market research site, replication and further extension of the research might be difficult. However, gray markets that sell parallel imports exist in developed countries as well, such as that found in the camera and electronic equipment retail stores in New York City, could possibly be used as research sites.

Furthermore, multinational companies could possibly be convinced by researchers to participate in test marketing

actual products sourced from their different plant locations in a real market. The price magnitudes of COE found by this research study might be sufficient to convince managers of the possible gains in participating in COE market research. For example, multinationals could sell tennis shoes made in their plants or by suppliers located in more developed countries, newly industrializing countries and less developed countries. These tennis shoes could be sold simultaneously in the same retail store (in an MDC, NIC or LDC). The use of bar code scanning equipment in the checkout counters could then be employed to provide an unobtrusive method to measure buyer preferences.

Any replication of this research study should try to improve on the statistical validity by using better measures, more variables (e.g., product categories, different distribution outlets), and multiple measures to assess each construct (e.g., more than one measure for risk). The reliability of this research study can also be improved upon (e.g., the branding variable). The COE construct can be refined by making a distinction between COB, COM, COD, COA, COC and COR. Instead of grouping countries, individual countries can be used to operationalize the COE construct, although a larger sample size would be needed to retain statistical power.

Previous COE research, including this study have focused on the COE of products. Few, if any, studies have been conducted investigating the possible COE of services. Since most high-income countries have economies that have services as a greater percentage of GDP than manufacturing, investigating the COE of service exports could be a useful extension of this research stream. Even lower-income countries have engaged in the export of skilled services such as engineers and accountants from the Philippines and software programmers from India.

The important question of mode choice deserves further research. More interviews could be conducted or a survey distributed among multinational managers located in different countries. A bigger sample should also include more joint ventures, licensors and licensees, and pure exporters, aside from wholly owned subsidiary manufacturers. This could provide more convincing evidence corroborating or disputing the results of analysis of product preference or price data.

The issue of consistency of quality between the different operations or plants of the same MNE located in different countries is a promising area of research. What are the factors that inhibit or promote the transfer of quality manufacturing capabilities to plants of the same MNE located

in different countries? What are the characteristics of the host country context that promote or inhibit the transfer of these capabilities?

What are the interactions between mode and location factors that determine the best way for producing 'global products', products that have value chain activities located in and parts sourced from multiple country locations? These value chain activities can be conducted through different modes, and purchased in-house or outsourced. How can transaction costs be minimized when governance costs make internalization less efficient? More research is needed on effective practices for managing international joint ventures, alliances, outsourcing and supplier networks within the context of the theory of the MNE, MNE strategy and the most current real world practices.

Global products could shift the emphasis of country-of-origin research from studying final consumers to the study of industrial purchasing. For an MNE manager with a world or regional product mandate, the question becomes, from which country and through which modes, does one purchase intermediate parts and final products from, in order to supply final markets, giving consideration to both cost and revenue factors? The results of this study suggest that revenue factors, and consumer perceptions of quality that may affect

these revenue factors, should be an important consideration.

Contributions of the Thesis

This thesis has made five original contributions to research in the areas of country-of-origin effects, mode alternatives, and the managerial implications of the two issues.

1. Prices of real products with different countries-of-manufacture, but with controls for firm specific effects, were collected from a real market place to measure actual buyer preferences due to country-of-origin effects. The effect of branding and product risk were also extended and tested. The results supported previous Marketing research on country-of-origin effects, but did so with an original methodology which added external validity to previous studies. The methodology used unobtrusive indicators thus minimizing demand effects.

2. This data was collected for 445 different products, a much wider range of products than in previous studies. This meant stronger statistical inferences could be made. The results showed that COE extended over this wide range of products.

3. The thesis tested the effects of mode alternatives on the demand side, the prices of products produced by MNEs operating under different modes. This type of research has not been

previously conducted. The results support internalization theory, showing favorable buyer preference for products made through more internalized modes such as wholly owned subsidiaries and joint ventures, over products made through licensing.

4. The price advantage of MNEs over UNEs was also tested, supporting theories on the firm specific advantage of MNEs suggested by Hymer (1960). Taken together, the over-all results showing the effects of production location, ownership advantage and mode effects, extend Dunnning's (1977, 1988) eclectic paradigm to the demand side or the marketing perspective.

5. Qualitative interviews with managers were combined with the quantitative, data base analysis of prices to derive both supply side and demand side implications on both location and mode issues. This combination of methodologies has not been used to investigate COE and mode issues previously. Interviews with the managers supported previous international business research and highlighted the effect of tariff barriers on multinational sourcing. The interviews supported the over-all advantage of WOS over JVs, and both over licensing.

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